

Prospective Imaging Objects – December 12 2023

Astronomical Data

Sunrise	Sunset	Astronomical Dusk	Astronomical Dawn	Imaging	New Moon
07:21am	05:21 pm	06:49 pm	05:53 am	11:04	December 12

Hardware Info

Configuration	FL	FOV	FOV°	Image Scale (1 – 1.5) ideal
C11HD ZWO ASI-6200 mono Pro	2800mm	45' x 30'	0.75° x 0.5°	0.280"/pix (Oversampled)
C11HD 0.7xReducer ZWO6200MCc	1960mm	60' x 45'	1.0° x 0.75°	0.393"/pix (Oversampled)
C11HD HS-v4 ZWO6200MCc	540mm	228' x 150'	3.8° x 2.5°	1.4"/pix (Undersampled)

How to use this document


Sculptor Galaxy (NGC 253)
Config: C11 | LF Corr |128c

Type: **Galaxy**
 Peak: **Oct 02**
 Constellation: **Sculptor**
 Coordinates:
00hr 47' 33"
-25° 17' 15"

Close Star: SAO-147420
 Catalog Objects: [NGC 253](#)

Imaging Window: *10:44 – 02:44
 Transit: **12:48**

Primary Focus



01: Background Fill Color - Items that I have previously images will have a fill color of grey, Images not yet imaged will have a white background color.

02: Object Name and catalog number – Common name long with one of the reference catalog numbers associated with this object.

03: Config – The optimal configuration to image this object, and the configuration the provided image is based on based on what hardware I own. Configuration will either be the Celestron C-11 Primary focus (with focal reducer) or C-11 with HyperStar.

04: Object Image – If this is an object I have already imaged, the thumbnail is my photo. It is hyperlinked to my website, so selecting the image should open a larger image in your browser. If the object has not yet been imaged by me the image displayed is for the identified configuration as obtained from <http://www.telescopious.com>.

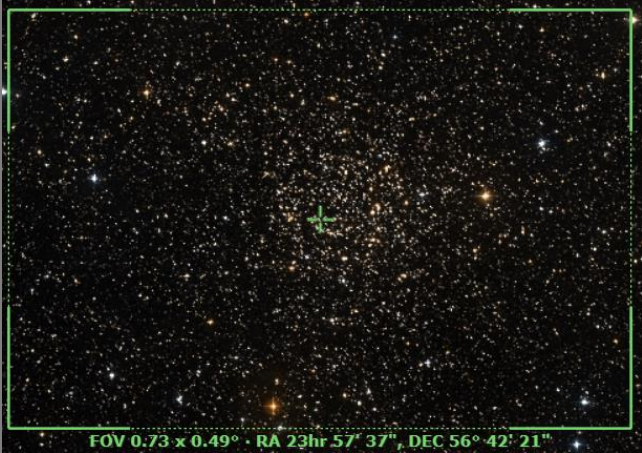

05: Close Star – A fairly bright star close to the target that can be used to check focus and sync the telescope before the imaging session begins.

06: Catalog Objects – List of objects that should appear in the field of view. When possible they are hyperlinked to <http://www.telescopious.com> where more information can be obtained.


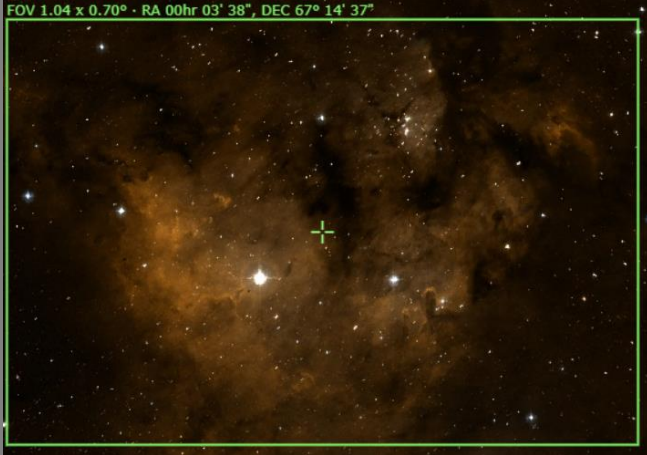

07: Imaging Window – Ideally the time the object is 45° above the horizon. Southern objects with negative DEC that do not peak above 45° are indicated with a *. Imaging window for these objects may be based on 30° or even 25° above horizon for the imaging window.

08: Transit – When the object is at the highest point in the sky for the night. For equatorial mounts this is when the meridian flip will occur.

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<p>Caroline's Rose (NGC-7789) Config: C11HD ZWO6200MC </p> <p>Type: Open Cluster</p> <p>Constellation: Cassiopeia Coordinates: 23h 57' 37" 56° 42' 21"</p> <p>Close Star: SAO-21607 (Shedar) Catalog Objects: NGC-7789 Imaging Window: 06:49 – 10:49 Transit: 07:00 65°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p> 
<p>NGC-7822 (Ced-214) Config: C11-HD HS ZWO6200MC</p> <p>Type: Emission Nebula Constellation: Cepheus</p> <p>Coordinates: Frame 01 RA: 00hr 03' 42" DEC: 67° 41' 45" Frame 02 RA: 00hr 03' 42" DEC: 65° 35' 15"</p> <p>Close Star: SAO-10818 Catalog Objects: Ced 214, NGC 7822, SH2-171</p> <p>Imaging Window: 06:49 – 10:30 Transit: 07:05 56°</p>	<p style="text-align: center;">C-11 HD: HyperStar v4 Composite!</p> 



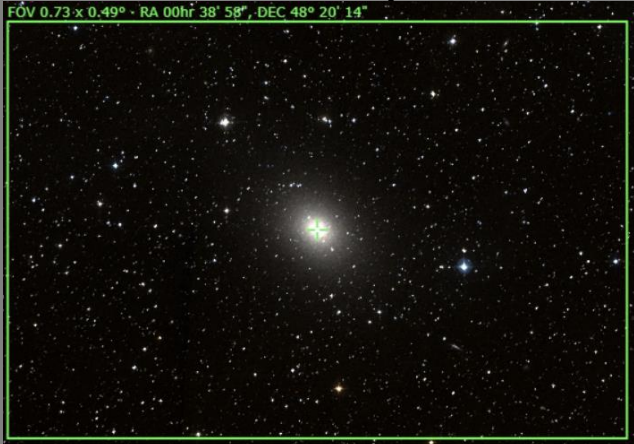
Prospective Imaging Objects – December 12 2023

<p>NGC-7822 (CED-214) Config: C11-HD HS ZWO6200MC</p> <p>Type: Diffuse Nebula</p> <p>Constellation: Cepheus Coordinates: 00h 01' 27" 67° 28' 37"</p> <p>Close Star: SAO-20268 Catalog Objects: NGC-7822/CED-214 Imaging Window: 06:49 – 10:30 Transit: 07:05 56°</p>	<p style="text-align: center;">C-11 HD: HyperStar v4</p>  <p style="font-size: small;">NGC-7822 Constellation: Cepheus</p> <p style="font-size: x-small; text-align: right;">Image Name: 20231114_C11_HD_HyperStar_v4_A2 Location: Chandler_A2 Equipment Info: ZWO6200MC C11 HS ZWO6200MC 20231114</p>
<p>NGC-7822 (CED-214) Config: C11-HD FR ZWO6200MC </p> <p>Type: Diffuse Nebula</p> <p>Constellation: Cepheus Coordinates: 00h 03' 38" 67° 14' 37"</p> <p>Close Star: SAO-20268 Catalog Objects: NGC-7822/CED-214 Imaging Window: 06:49 – 10:30 Transit: 07:05 56°</p>	<p style="text-align: center;">C-11 HD: Focal Reducer</p>  <p style="font-size: small;">FOV 1.04 x 0.70° - RA 00hr 03' 38", DEC 67° 14' 37"</p> <p style="font-size: x-small; text-align: right;">Image Name: 20231114_C11_HD_FR_A2 Location: Chandler_A2 Equipment Info: ZWO6200MC C11 HS ZWO6200MC 20231114</p>
<p>NGC-7822 (CED-214) Config: C11HD ZWO6200MC </p> <p>Type: Emission Nebula Constellation: Cepheus Coordinates: 00h 01' 56" 67° 23' 05"</p> <p>Close Star: SAO-10818 Catalog Objects: Ced 214, NGC 7822, SH2-171 Imaging Window: 06:49 – 10:30 Transit: 07:05 56°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p>  <p style="font-size: x-small;">Bright Nebula NGC-7822 (Ced 214) Constellation: Cepheus RA = 00h 01m 56.300s DEC = +67° 23' 05.100" Size = 42.8 x 28.9 arcsec. Pixel scale = 0.847"/pixel</p> <p style="font-size: x-small; text-align: right;">Image Name: 20231114_C11_HD_PrimaryFocus_A2 Location: Chandler_A2 Equipment Info: ZWO6200MC C11 HS ZWO6200MC 20231114</p>


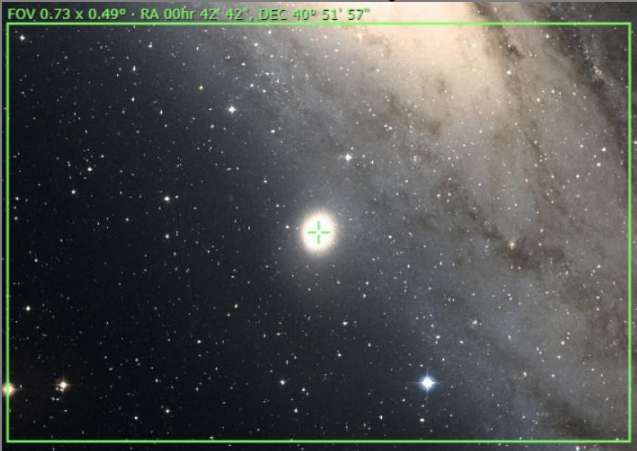

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<p>Bow-Tie Nebula (NGC-40) Config: C11HD ZWO6200MC </p> <p>Type: Planetary Nebula</p> <p>Constellation: Cepheus Coordinates: 00h 13' 01" 72° 31' 21"</p> <p>Close Star: SAO-20268 Catalog Objects: NGC-40 Imaging Window: 06:49 – 10:08 Transit: 07:16 51°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p> 
<p>Andromeda Galaxy Group Config: C11HD ZWO6200MC </p> <p>Type: Cluster of dim galaxies Peak:</p> <p>Constellation: Andromeda Coordinates: 00h 17' 58" 30° 03' 03"</p> <p>Close Star: SAO-73765 (Alpheratz) Catalog Objects: NGC 67-72 et. El.</p> <p>Imaging Window: 06:49 – 10:54 Transit: 07:21 87°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p> 
<p>NGC-147 & NGC-185 Config: C11-HD HS ZWO6200MC</p> <p>Type: Galaxy Pair</p> <p>Constellation: Cassiopeia Coordinates: 00h 36' 22" 48° 26' 42"</p> <p>Close Star: SAO-21609 (Shedar) Catalog Objects: NGC-147, NGC-185 Imaging Window: 06:49 – 11:26 Transit: 07:36 75°</p>	<p style="text-align: center;">C-11 HD: HyperStar v4</p> 



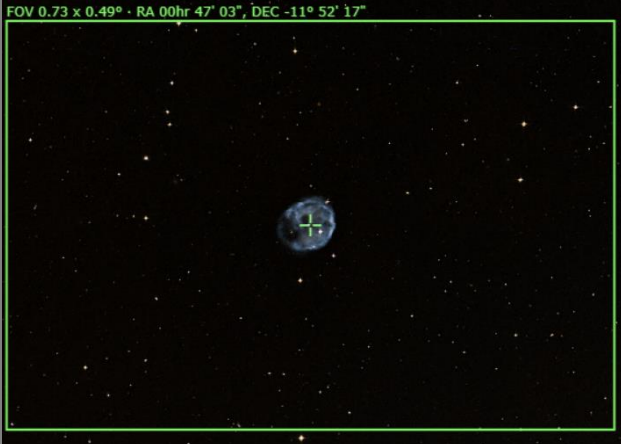
Prospective Imaging Objects – December 12 2023

<p>NGC-147 & NGC-185 Config: C11-HD FR ZWO6200MC</p> <p>Type: Galaxy Pair</p> <p>Constellation: Cassiopeia Coordinates: Frame 01 RA: 00hr 38' 33" DEC: 48° 25' 44" Frame 02 RA: 00hr 33' 21" DEC: 48° 25' 44"</p> <p>Close Star: SAO-21609 (Shedar) Catalog Objects: NGC-147, NGC-185 Imaging Window: 06:49 – 11:26 Transit: 07:36 75°</p>	<p style="text-align: center;">C-11 HD: Focal Reducer Composite!</p>  <p style="font-size: small;"><small>Dwarf Galaxies NGC-185, NGC-147 Constellation: Cassiopeia RA = 00h 33m 00s DEC = 48deg 26' 00" Size = 12 x 9.2 arcmin Orientation: 0-84deg E-PA: Pixel scale = 0.87 arcsec/pixel Date: 2023-11-13 Location: Clouds AZ Config: C11 HD Focal Reducer Filter: Blue/Red/Blue Filter: 00Y128K Exposure: 60s 300s 10000s Processing: N/A Filter: 00Y128K Filter: 00Y128K Date: 2023-11-13</small></p>
<p>NGC-147 Config: ZWO6200MC </p> <p>Type: Galaxy Peak: Constellation: Cassiopeia Coordinates: 00h 33' 07.245" 48° 30' 18.030"</p> <p>Close Star: SAO-37375 Catalog Objects: NGC-147</p> <p>Imaging Window: 06:49 – 11:26 Transit: 07:36 75°</p>	<p style="text-align: center;">Primary Focus</p>  <p style="font-size: small;"><small>Dwarf Galaxy NGC-147 Constellation: Cassiopeia RA = 00h 33m 07.245s DEC = 48deg 30' 18.030" Size = 49.7 x 33.5 arcmin Pixel scale = 0.579 arcsec/pixel Date: 2023-09-17 Location: Andover Clouds, Fairfield, AZ Config: C11 LF Camera Broad Stageson Filter 00Y128K Exposure: 60s 300s 10000s Processing: N/A Filter: 00Y128K Filter: 00Y128K Date: 2023-11-13</small></p>
<p>NGC-185 Config: C11-HD ZWO6200MC</p> <p>Type: Dwarf Spheroidal Galaxy</p> <p>Constellation: Cassiopeia Coordinates: 00h 38' 58" 48° 20' 14"</p> <p>Close Star: SAO-21609 (Shedar) Catalog Objects: NGC-185 Imaging Window: 06:49 – 11:32 Transit: 07:42 75°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p>  <p style="font-size: small;"><small>FOV 0.73 x 0.49° - RA 00hr 38' 58", DEC 48° 20' 14"</small></p> <p style="font-size: x-small;"><small>Date: 2023-09-17 Location: Andover Clouds, Fairfield, AZ Config: C11 LF Camera Broad Stageson Filter 00Y128K Exposure: 60s 300s 10000s Processing: N/A Filter: 00Y128K Filter: 00Y128K Date: 2023-11-13</small></p>




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<p>M-110 Config: C11-HD ZWO6200MC</p> <p>Type: Elliptical Galaxy</p> <p>Constellation: Andromeda Coordinates: 00h 40' 22" 41° 41' 07"</p> <p>Close Star: SAO-73765 (Sirrah) Catalog Objects: M-110 Imaging Window: 06:49 – 11:32 Transit: 07:46 82°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p>  <p style="font-size: small;">M-110 (NGC-205) Constellation: Andromeda RA = 00h 40m 21.0s, DEC = +41d 41' 07.0" (Star = +41.2 27.7 arcsec, Orientation: N, Mag. of N: (Pixel scale = 0.446 arcsec/pixel), F/5.762x)</p>
<p>M-32 Config: C11-HD ZWO6200MC</p> <p>Type: Elliptical Galaxy</p> <p>Constellation: Andromeda Coordinates: 00h 42' 42" 40° 51' 57"</p> <p>Close Star: SAO-73765 (Sirrah) Catalog Objects: M-32 Imaging Window: 06:49 – 11:32 Transit: 07:46 82°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p>  <p style="font-size: small;">FOV 0.73 x 0.49° - RA 00hr 42m 42", DEC 40° 51' 57"</p>
<p>Andromeda Galaxy (M 31) Config: C11 HS ZWO6200MCc </p> <p>Type: Galaxy Peak: Oct 1 Constellation: Andromeda Coordinates: 00h 43' 03.089" 41° 18' 37.05"</p> <p>Close Star: SAO-54281 Catalog Objects: M-31, M-32, M-110, NGC-224, NGC-206</p> <p>Imaging Window: 06:49 – 11:32 Transit: 07:46 82°</p>	<p style="text-align: center;">Hyperstar</p>  <p style="font-size: small;">The Great Andromeda Galaxy (M-31 & M32) Constellation: Andromeda</p>

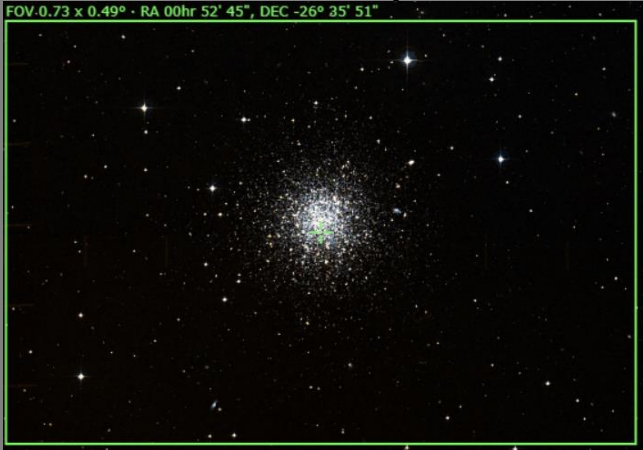
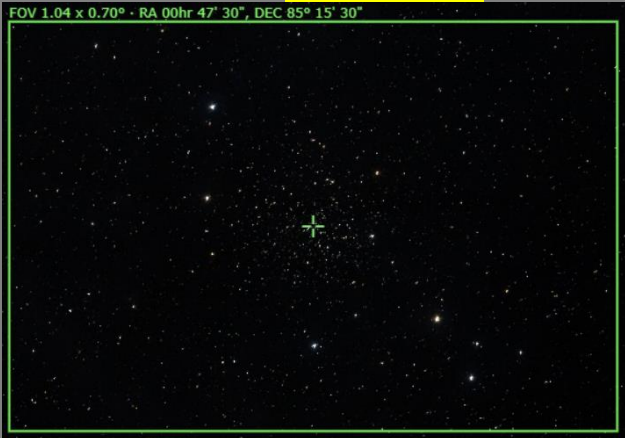

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<p>M-31, M-32 Config: C11-HD HS ZWO6200MC</p> <p>Type: Andromeda Galaxy</p> <p>Constellation: Andromeda Coordinates: 00h 42' 44" 41° 16' 08" Angle: 133° East</p> <p>Close Star: SAO-73765 (Sirrah) Catalog Objects: M-31, M-32 Imaging Window: 06:49 – 11:32 Transit: 07:46 82°</p>	<p style="text-align: center;">C-11 HD: HyperStar v4</p>  <p style="font-size: small;">The Andromeda Galaxy (M-31, M-32, NGC-224) Constellation: Andromeda RA = 00h 42m 44s, DEC = +41° 16' 08" (J2000) Orientation: 00deg E of N (Pixel scale = 0.47 arcsec/pixel) F1.1999sec</p> <p style="font-size: x-small; text-align: right;">Jenny Holm (Date: 2023-11-14) Location: Orlando, FL Config: C11-HD HyperStar v4 ZWO6200MC Exposure Info: 1:10, unmod. frame/Star: 100 (raw) and 12.40 (Star Tracker) (Date: 2023-11-14) (Offset: 0)</p>
<p>NGC246, NGC255, PGC 2689 Config: C11-HD HS ZWO6200MC</p> <p>Type: Planetary Nebula, 2 Galaxies</p> <p>Constellation: Cetus Coordinates: 00h 47' 00" -11° 40' 40"</p> <p>Close Star: SAO-147420 (Diphda) Catalog Objects: NGC-246 Imaging Window: *06:49 – 10:34 Transit: 07:50 45°</p>	<p style="text-align: center;">C-11 HD: Focal Reducer</p>  <p style="font-size: small;">Skull Nebula (NGC-246) and Galaxy NGC-255 Constellation: Cetus the Whale RA = 00h 47m 00s, DEC = -11deg 40' 40" (J2000) Orientation: 190deg E of N (Pixel scale = 0.579 arcsec/pixel) F1.1999sec</p> <p style="font-size: x-small; text-align: right;">Jenny Holm (Date: 2023-11-20) Location: Orlando, FL Config: C11-HD 0.7 Focal Reducer Filter: Baader Skyglow Camera: QHY128C Exposure Info: 1000ms/frame Gain: 2000 Offset: 100</p>
<p>Skull Nebula (NGC-246) Config: C11-HD ZWO6200MC</p> <p>Type: Planetary Nebula</p> <p>Constellation: Cetus Coordinates: 00h 47' 03" -11° 52' 17"</p> <p>Close Star: SAO-147420 (Diphda) Catalog Objects: NGC-246 Imaging Window: *06:49 – 10:34 Transit: 07:50 45°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p>  <p style="font-size: small;">FOV 0.73 x 0.49° - RA 00hr 47' 03", DEC -11° 52' 17"</p> <p style="font-size: x-small; text-align: right;">Jenny Holm (Date: 2023-11-20) Location: Orlando, FL Config: C11-HD Primary Focus Exposure Info: 1000ms/frame Gain: 2000 Offset: 100</p>




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<p>Needle's Eye Galaxy (NGC 247) Config: C11HD ZWO6200MC </p> <p>Type: Galaxy Peak: Constellation: Cetus Coordinates: 00hr 47' 12" -20° 44' 38"</p> <p>Close Star: SAO-147420 Catalog Objects: NGC 247</p> <p>Imaging Window: *06:49 – 10:17 Transit: 07:50 36°</p>	<p>C-11 HD: Primary Focus</p>  <p><small>Needle's Eye Galaxy (NGC-247) Constellation: Cetus RA = 00h 47m 12s, DEC = -20deg 44' 38" Size = 41 x 1,377 pixels Orientation: 0.0Mag E of N Pixel scale = 0.446 arcsec/pixel FL=200mm</small></p> <p><small>James Yoder Date: 2023-11-20 08:12 Location: Chandler, AZ Config: C-11 HD Shade Ring QHY128K Exposure Info: 1000x30min Gain: 3200 Offset: 180</small></p>
<p>NGC-288, NGC-253 Config: C11-HD HS ZWO6200MC</p> <p>Type: Globular and Galaxy</p> <p>Constellation: Sculptor Coordinates: 00h 50' 03" -25° 54' 37"</p> <p>Close Star: SAO-147420 (Diphda) Catalog Objects: NGC-288, NGC-253 Imaging Window: *06:49 – 09:49 Transit: 07:50 30°</p>	<p>C-11 HD: HyperStar v4</p>  <p><small>Sculptor galaxy (NGC-253) and Globular Cluster (NGC-288) Constellation: Sculptor RA = 00h 49m 21s, DEC = -25deg 54' 45.6" Size = 3.14 x 2.09 deg Orientation: 0Mag E of N Pixel scale = 1.226 arcsec/pixel FL=540mm</small></p> <p><small>James Yoder Date: 2023-12-14 Location: Maricopa Central Trailhead, AZ Config: C-11HD HyperStar V4 Shade Ring QHY128K Exposure Info: 2100x30min Gain: 3200 Offset: 180</small></p>
<p>Sculptor Galaxy (NGC-253) Config: C11-HD ZWO6200MC</p> <p>Type: Spiral Galaxy</p> <p>Constellation: Sculptor Coordinates: 00h 47' 33" -25° 17' 15"</p> <p>Close Star: SAO-147420 (Diphda) Catalog Objects: NGC-253 Imaging Window: *06:49 – 09:49 Transit: 07:50 30°</p>	<p>C-11 HD: Primary Focus</p>  <p><small>Sculptor Galaxy (NGC 253) Constellation: Sculptor</small></p> <p><small>James Yoder Date: 2023-11-29 08:21 Location: Chandler, AZ Config: C11 Starizona L.F. Corrector Shade Moon Filter QHY128K Exposure Info: 1000x30min Gain: 3200 Offset: 180</small></p>

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<p>NGC-288 Config: C11-HD ZWO6200MC</p> <p>Type: Globular Cluster</p> <p>Constellation: Sculptor Coordinates: 00h 52' 45" -26° 35' 51"</p> <p>Close Star: SAO-147420 (Diphda) Catalog Objects: NGC-288 Imaging Window: *06:49 – 09:44 Transit: 07:55 31°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p> 
<p>NGC-188 Config: C11-HD FR ZWO6200MC</p> <p>Type: Open Cluster</p> <p>Constellation: Cepheus Coordinates: 00h 47' 30" 85° 15' 30"</p> <p>Close Star: SAO-308 (Polaris) Catalog Objects: NGC-188 Imaging Window: *06:49 – 04:28 Transit: 07:50 38°</p>	<p style="text-align: center;">C-11 HD: Focal Reducer</p> 
<p>Packman Nebula (NGC-281) Config: C11-HD FR ZWO6200MC</p> <p>Type: Diffuse Nebula</p> <p>Constellation: Cassiopeia Coordinates: 00h 53' 00" 56° 37' 00"</p> <p>Close Star: SAO-11482 (Navi) Catalog Objects: NGC-281 Imaging Window: 06:49 – 11:44 Transit: 07:56 67°</p>	<p style="text-align: center;">C-11 HD: Focal Reducer</p> 

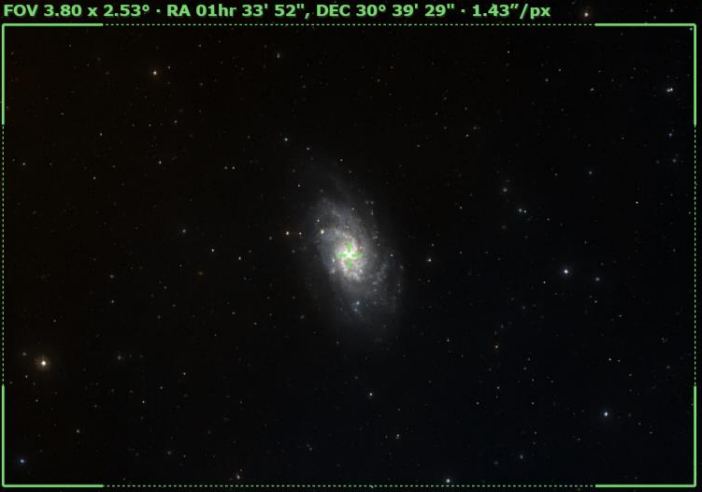


Prospective Imaging Objects – December 12 2023

<p>Gamma Cassiopeiae Nebula (SH2-185) Config: C11-HD HS ZWO6200MC</p> <p>Type: Bright Nebula</p> <p>Constellation: Cassiopeia Coordinates: 01h 03' 11" 60° 42' 24"</p> <p>Close Star: SAO-11482 (Navi) Catalog Objects: SH2-185 Imaging Window: 06:49 – 11:43 Transit: 07:59 62°</p>	<p>C-11 HD: HyperStar v4</p>  <p><small>Gamma Cassiopeiae Nebula (SH2-185, LBN-620, IC-59 & IC-163) Constellation: Cassiopeia RA: 01h 03m 11.00s, DEC: 60° 42' 24.00" (J2000.0) Source: Astronomical Society of the Pacific</small></p>
<p>Gamma Cassiopeiae Nebula (IC-59, IC-63) Config: C11-HD HS ZWO6200MC</p> <p>Type: Bright Nebula</p> <p>Constellation: Cassiopeia Coordinates: 00h 58' 48" 61° 04' 02"</p> <p>Close Star: SAO-11482 (Navi) Catalog Objects: SH2-185 Imaging Window: 06:49 – 11:43 Transit: 07:59 62°</p>	<p>C-11 HD: Primary Focus</p> <p>FOV 0.73 x 0.49° - RA, 00hr 58' 48", DEC 61° 04' 02"</p> 
<p>IC-1613 Config: C11-HD ZWO6200MC</p> <p>Type: Irregular Dwarf Galaxy</p> <p>Constellation: Cetus Coordinates: 01h 04' 48" 02° 07' 07"</p> <p>Close Star: SAO-75151 (Hamal) Catalog Objects: IC-1613 Imaging Window: 06:49 – 10:26 Transit: 08:07 59°</p>	<p>C-11 HD: Primary Focus</p> <p>FOV 0.73 x 0.49° - RA 01hr 04' 48", DEC 02° 07' 07"</p> 




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<p>Minkowski's Object (Arp-133) Config: C11-HD HS ZWO6200MC</p> <p>Type: Galaxy Cluster Constellation: Cetus Coordinates: 01h 25' 27" -01° 29' 03"</p> <p>Close Star: SAO-75151 (Hamal) Catalog Objects: ARP-133 Imaging Window: 06:49 – 10:30 Transit: 08:28 55°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p> 
<p>Firefox Nebula (Sh 2-188) Config: C11HD ZWO6200MC </p> <p>Type: Diffuse Nebula Peak: Constellation: Cassiopeia Coordinates: 01h 31' 37" 58° 21' 22"</p> <p>Close Star: SAO-22268 (Ruchbah) Catalog Objects: Sh 2-188</p> <p>Imaging Window: 06:49 – 12:20 Transit: 08:33 65°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p> 
<p>M-103 (NGC-581) Config: C11HD ZWO6200MC </p> <p>Type: Open Cluster Constellation: Cassiopeia Coordinates: 01h 33' 31" 60° 39' 44"</p> <p>Close Star: ISO-22268 (Ruchbah) Catalog Objects: M-103/NGC-581</p> <p>Imaging Window: 06:49 – 12:20 Transit: 08:36 63°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p> 

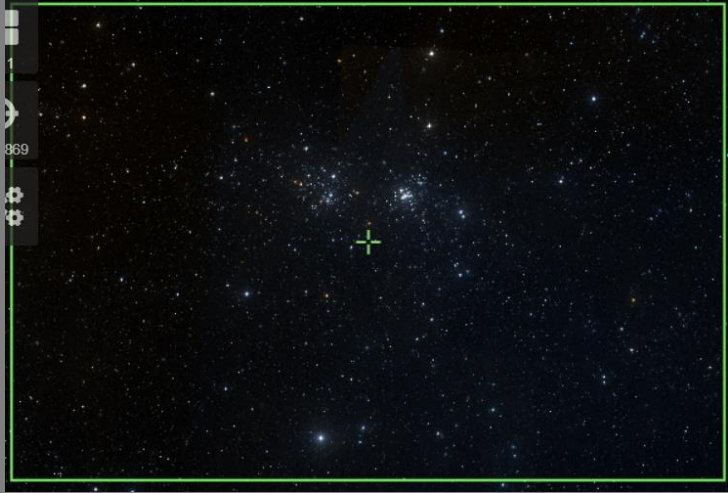


Prospective Imaging Objects – December 12 2023

<p>Triangulum Galaxy (M-33) Config: C11 HS ZWO6200MC</p> <p>Type: Galaxy Constellation: Triangulum Coordinates: 01h 33' 52" 30° 39' 29"</p> <p>Close Star: SAO-74996 Catalog Objects: M33, NGC598</p> <p>Imaging Window: 06:49 – 12:10 Transit: 08:37 87°</p>	<p>C-11 HD: HyperStar v4</p>  <p>FOV 3.80 x 2.53° · RA 01h 33' 52", DEC 30° 39' 29" · 1.43"/px</p>
<p>Triangulum Galaxy (M-33) Config: C11-HD FR ZWO6200MC </p> <p>Type: Galaxy Peak: Oct 14 Constellation: Triangulum</p> <p>Camera Rotation - 90°</p> <p>Coordinates: 01h 33' 52" 30° 39' 29"</p> <p>Close Star: SAO-74996 Catalog Objects: M33, NGC598</p> <p>Imaging Window: 06:49 – 12:10 Transit: 08:37 87°</p>	<p>CH11-HD Focal Reducer 90° Rotation</p>  <p>Triangulum Galaxy (M-33) Constellation: Triangulum</p> <p>James Yoder 2014</p>
<p>Triangulum Galaxy (M-33) Config: ZWO6200MC </p> <p>Type: Galaxy Peak: Oct 14 Constellation: Triangulum Coordinates: 01° 34' 53.37" 30° 45' 11.2"</p> <p>Close Star: SAO-74996 Catalog Objects: M33, NGC598</p> <p>Imaging Window: 06:49 – 12:10 Transit: 08:37 87°</p>	<p>Primary Focus</p>  <p>M33: Pinwheel Galaxy</p> <p>James Yoder 2014</p>


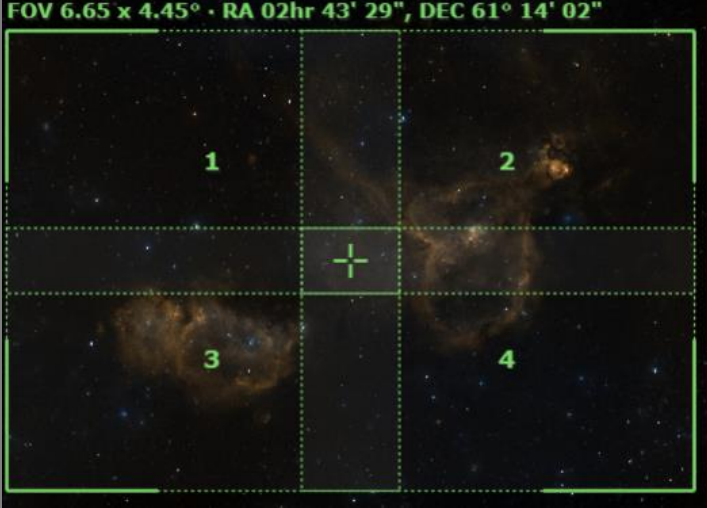

Prospective Imaging Objects – December 12 2023

<p>M-74 Config: C11HD ZWO6200MC </p> <p>Type: Spiral Galaxy Peak: Constellation: Pisces Coordinates: 01h 36' 42" 15° 46' 60"</p> <p>Close Star: ISO-91781 (Algenib) Catalog Objects: M-74</p> <p>Imaging Window: 06:49 – 11:43 Transit: 08:39 72°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p>  <p style="font-size: small;">Spiral Galaxy M-74 (NGC-628) Constellation: Pisces RA = 01h 36m 42.52s DEC = +15deg 46' 59.83" Size = 42.1 x 28.3 arcmin (Pixel scale = 0.441 arcsec/pix) Location: Messier group: Tailhead, 57 Coordinates: RA: 01:36:42.52, Dec: +15:46:59.83 Exposure Info: 08h00m/Sum (Gain: 3200) (Offset: 180)</p>
<p>Little Dumbbell Nebula (M-76) Config: C11HD ZWO6200MC </p> <p>Type: Planetary Nebula Peak: Constellation: Perseus Coordinates: 01h 42' 18" 51° 34' 17"</p> <p>Close Star: ISO-37375 Catalog Objects: M-76</p> <p>Imaging Window: 06:49 – 12:35 Transit: 08:45 72°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p>  <p style="font-size: small;">Little Dumbbell Nebula (M-76, NGC-650) Constellation: Perseus RA = 01h 42m 15.3s DEC = +51deg 34' 48.5" Size = 36.8 x 24.5 arcmin (Orientation: 0.4deg E of N) (Pixel scale = 0.446 arcsec/pix) (FL=2000mm) Location: Messier Group: 2020, 10, 143, Charles 2020, 10, 101, AZ Coordinates: RA: 01:42:15.3, Dec: +51:34:48.5 Exposure Info: 48h00m/Sum (Gain: 3200) (Offset: 180)</p>
<p>Nautilus Galaxy (NGC-772) Config: C11HD ZWO6200MC </p> <p>Type: Galaxy Peak: Constellation: Aries Coordinates: 01h 59' 19" 19° 00' 27"</p> <p>Close Star: ISO-75012 (Sheratan) Catalog Objects: NGC-772</p> <p>Imaging Window: 06:49 – 12:14 Transit: 09:02 76°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p>  <p style="font-size: small;">Nautilus Galaxy (NGC-772) Constellation: Aries RA = 01h 59m 19.1s DEC = +19deg 00' 27.1" Size = 36.8 x 24.5 arcmin (Orientation: 0.4deg E of N) (Pixel scale = 0.446 arcsec/pix) (FL=2000mm) Location: Messier Group: 2020, 10, 143, Charles 2020, 10, 101, AZ Coordinates: RA: 01:59:19.1, Dec: +19:00:27.1 Exposure Info: 48h00m/Sum (Gain: 3200) (Offset: 180)</p>


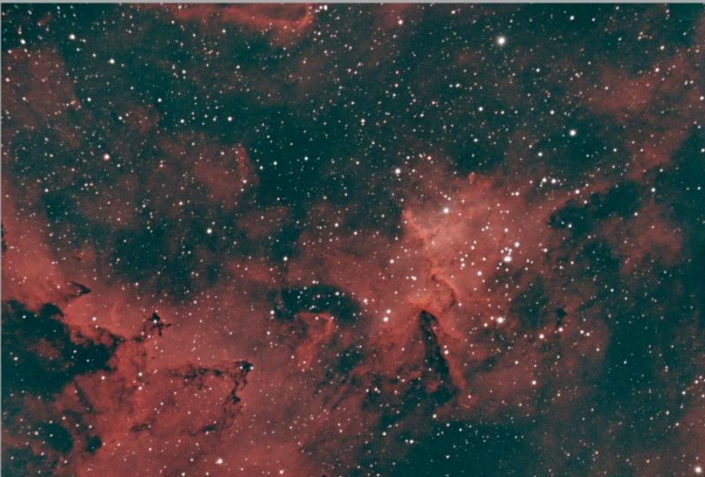

Prospective Imaging Objects – December 12 2023

<p>Hand chi Persei (NGC 869, 884) Config: C11-HD HS ZWO6200MC</p> <p>Type: Double Open Cluster Peak: October 28 Constellation: Perseus Coordinates: 02hr 20' 31" 56° 54' 05"</p> <p>Close Star: SAO-22258 (Ruchbah) Catalog Objects: NGC 869, 884</p> <p>Imaging Window: 06:49 – 01:13 Transit: 09:25 66°</p>	<p style="text-align: center;">C-11 HD: HyperStar v4</p> 
<p>Edge On Galaxy (NGC 891) Config: C1 LF ZWO6200MC </p> <p>Type: Galaxy Peak: Oct 27 Constellation: Andromeda Coordinates: 02h 23' 43.29" 42° 25' 46.4"</p> <p>Close Star: SAO-37734 Catalog Objects: NGC891</p> <p>Imaging Window: 06:49 – 01:12 Transit: 09:25 81°</p>	<p style="text-align: center;">Primary Focus</p>  <p style="font-size: small;">Edge On Spiral Galaxy NGC 891 Janho Yoder 2014.11.23</p>
<p>NGC-925 (PGC 9332) Config: C11-HD ZWO6200MC </p> <p>Type: Galaxy Constellation: Triangulum Coordinates: 02h 27' 17" 33° 34' 44"</p> <p>Close Star: SAO-55306 (Beta Trianguli) Catalog Objects: NGC925/PGC9332</p> <p>Imaging Window: 06:49 – 01:08 Transit: 09:30 90°</p>	<p style="text-align: center;">Primary Focus</p>  <p style="font-size: x-small;">NGC-925 Primary Focus Galaxy in Triangulum © 2023 J. Yoder. All rights reserved. Janho Yoder 2014.11.23</p>

Prospective Imaging Objects – December 12 2023

<p>Fish Head Nebula (IC-1795) Config: C11-HD FR ZWO6200MC </p> <p>Type: Bright Nebula Constellation: Cassiopeia</p> <p>Coordinates: 02h 27' 03" 62° 02' 31"</p> <p>Close Star: SAO-38787 (Mirfak) Catalog Objects: IC-1795</p> <p>Imaging Window: 06:49 – 01:10 Transit: 09:28 61°</p>	<p>CH11-HD Focal Reducer</p>  <p><small>Fish Head Nebula (IC-1795) Constellation: Cassiopeia SAO-38787 (Mirfak) - 02h 27m 03s, 62° 02' 31" - 10/12/2023 Equipment: CH11-HD HyperStar v4, Focal Reducer, ZWO6200MC</small></p>
<p>Heart and Soul Nebulas Config: C11 HS ZWO6200MC</p> <p>Type: Diffuse Nebula</p> <p>Constellation: Cassiopeia Coordinates (RA, DEC): Pane 1: 02hr 55' 41", 62° 09' 11" Pane 2: 02hr 31' 16", 62° 09' 11" Pane 3: 02hr 54' 58", 60° 15' 00" Pane 4: 02hr 31' 59", 60° 15' 00"</p> <p>Close Star: SAO-38787 (Mirfak) Catalog Objects: IC-1848</p> <p>Imaging Window: 06:49 – 01:18 Transit: 09:35 63°</p>	<p>C-11 HD: HyperStar v4 SUPER-4 Composite!</p> <p>FOV 6.65 x 4.45° • RA 02hr 43' 29", DEC 61° 14' 02"</p>  <p><small>Heart and Soul Nebulas (IC-1848) Constellation: Cassiopeia SAO-38787 (Mirfak) - 02h 43m 29s, 61° 14' 02" - 10/12/2023 Equipment: C11 HyperStar v4, ZWO6200MC</small></p>
<p>Heart Nebula (IC 1805) Config: C11-HD HS ZWO6200MC</p> <p>Type: Diffuse Nebula Peak: October 31 Constellation: Cassiopeia Coordinates: 02hr 31' 16" 61° 21' 36"</p> <p>Close Star: SAO-12031 Catalog Objects: IC 1805</p> <p>Imaging Window: 06:49 – 01:18 Transit: 09:35 63°</p>	<p>C-11 HD: HyperStar v4</p>  <p><small>Heart Nebula (IC 1805) Constellation: Cassiopeia SAO-12031 - 02h 31m 16s, 61° 21' 36" - 10/12/2023 Equipment: C11 HyperStar v4, ZWO6200MC</small></p>




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<p>Heart Nebula (IC 1805) Config: C11-HD FR ZWO6200MC </p> <p>Type: Diffuse Nebula Constellation: Cassiopeia Coordinates: 02hr 26' 36" 62° 06' 53"</p> <p>Close Star: SAO-12031 Catalog Objects: IC 1805</p> <p>Imaging Window: 06:49 – 01:18 Transit: 09:35 63°</p>	<p>CH11-HD Focal Reducer</p>  <p>Heart Nebula core (IC-1805) <small>Constellation: Cassiopeia RA = 02h 26m 36.50s DEC = +62deg 06' 53.00" Date = 2023-11-14 14:44:44 Camera: Focal Reducer Pixel scale = 0.927 arc/pixel</small></p>
<p>Heart Nebula (IC-1805) Config: C1 LF ZWO6200MC </p> <p>Type: Diffuse Nebula Peak: October 31 Constellation: Cassiopeia Coordinates: 02hr 32' 42" 61° 27' 00"</p> <p>Close Star: SAO-12031 Catalog Objects: IC 1805</p> <p>Imaging Window: 06:49 – 01:18 Transit: 09:35 63°</p>	<p>Primary Focus</p>  <p>Heart Nebula Core (IC-1805) <small>Constellation: Cassiopeia RA = 02h 32m 42.00s DEC = +61deg 27' 00.00" Date = 2023-11-14 14:44:44 Camera: Primary Focus Pixel scale = 1.854 arc/pixel</small></p>
<p>M-77, NGC 1055 Config: C11-HD FR ZWO6200MC </p> <p>Type: Galaxy Peak: Constellation: Cetus Coordinates: 02hr 42' 14" 00° 14' 28" Angle: 90°</p> <p>Close Star: SAO-110665 Catalog Objects: M-77, NGC-1055, NGC-1068</p> <p>Imaging Window: 07:34 – 11:55 Transit: 09:44 57°</p>	<p>CH11-HD Focal Reducer</p>  <p>Galaxies NGC-1055, M-77, NGC-1072 <small>Constellation: Cetus RA = 02h 42m 26.56s DEC = +00deg 14' 13.87" Size = 55.2 x 39.3 arcmin Orientation: -90. Mag E of N Pixel scale = 0.579 arcsec/pixel FL=1456mm</small></p>

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<p>NGC-1055 Config: C11HD ZWO6200MC </p> <p>Type: Galaxy Peak: Constellation: Cetus Coordinates: 02hr 41' 50" 00° 29' 48"</p> <p>Close Star: SAO-110665 Catalog Objects: NGC-1055</p> <p>Imaging Window: 07:34 – 11:55 Transit: 09:44 57°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p>  <p>A telescope image showing the galaxy NGC 1055. The galaxy is a faint, elongated, and slightly curved structure of stars and dust, oriented horizontally. It is surrounded by a field of stars. A green crosshair is centered on the galaxy. The image is framed by a green border. On the left side, there are some UI elements including a gear icon and the number '1055'.</p>
<p>M 77 (NGC 1068) Config: C11HD ZWO6200MC </p> <p>Type: Galaxy Peak: Constellation: Cetus Coordinates: 02hr 42' 34" 00° 02' 07"</p> <p>Close Star: SAO-110665 Catalog Objects: M 77, NGC-1068</p> <p>Imaging Window: 07:37 – 11:53 Transit: 09:45 57°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p>  <p>A telescope image showing the galaxy M 77 (NGC 1068). The galaxy is a bright, irregularly shaped structure of stars and dust, oriented horizontally. It is surrounded by a field of stars. A green crosshair is centered on the galaxy. The image is framed by a green border. On the left side, there are some UI elements including a gear icon and the number '77'.</p>
<p>M-34 (NGC-1039) Config: C11-HD ZWO6200MC </p> <p>Type: Open Cluster Constellation: Perseus Coordinates: 02h 42' 05" 42° 45' 42"</p> <p>Close Star: SAO-38592 (Algol) Catalog Objects: M-34/NGC-1039</p> <p>Imaging Window: 06:49 – 01:32 Transit: 09:45 81°</p>	<p style="text-align: center;">Primary Focus</p>  <p>A telescope image showing the open cluster M-34 (NGC-1039). The cluster is a dense field of stars, with many bright stars and some fainter ones. The stars are scattered across the field, with a concentration in the center. A green crosshair is centered on the cluster. The image is framed by a green border.</p>




Prospective Imaging Objects – December 12 2023

<p>Soul Nebula (IC-1848) Config: C11-HD HS ZWO6200MC</p> <p>Type: Diffuse Nebula Peak: Constellation: Cassiopeia Coordinates: 02hr 57' 16" 60° 37' 37"</p> <p>Close Star: SAO-38787 (Mirfak) Catalog Objects: IC 1848</p> <p>Imaging Window: 06:49 – 01:38 Transit: 09:54 63°</p>	<p style="text-align: center;">C-11 HD: HyperStar v4</p>  <p style="font-size: small;">Soul Nebula (IC-1848) Constellation: Cassiopeia</p> <p style="font-size: x-small; text-align: right;">Juno Yule - 2018.12.20 Location: Chandler, AZ Config: C11 HyperStar v4 APM2006L ZWO6200MC Exposure Info: 240mins @ 5min Gain: 3200 Offset: 180 </p>
<p>Soul Nebula (IC-1848) Config: C1 LF ZWO6200MC </p> <p>Type: Diffuse Nebula Peak: Constellation: Cassiopeia Coordinates: 02hr 57' 16" 60° 37' 37"</p> <p>Close Star: SAO-38787 (Mirfak) Catalog Objects: IC 1848</p> <p>Imaging Window: 06:49 – 01:38 Transit: 09:54 63°</p>	<p style="text-align: center;">Primary Focus</p>  <p style="font-size: small;">Soul Nebula (IC-1848) Constellation: Cassiopeia</p> <p style="font-size: x-small; text-align: right;">Juno Yule - 2018.12.20 Location: Chandler, AZ Config: C11 Straylight Filter Primary Focus ZWO6200MC Exposure Info: 240mins @ 5min Gain: 3200 Offset: 180 </p>
<p>Perseus Galaxy Cluster Config: C11HD ZWO6200MC </p> <p>Type: Galaxy Cluster Peak: Constellation: Perseus Coordinates: 03hr 19' 58" 41° 29' 13"</p> <p>Close Star: SAO-38592 (Algol) Catalog Objects: Abell-426, NGC1275, 1278, 1272, Et. El.</p> <p>Imaging Window: 06:49 – 02:08 Transit: 10:22 82°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p> 




Prospective Imaging Objects – December 12 2023

<p>NGC-1333 Config: C11HD ZWO6200MC </p> <p>Type: Bright Nebula Peak: November 13 Constellation: Perseus Coordinates: 03hr 29' 15" 31° 20' 12"</p> <p>Close Star: SAO-56799 Catalog Objects: NGC 1333</p> <p>Imaging Window: 08:43 – 12:30 Transit: 10:36 88°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p>  <p>A wide-field astronomical image showing a star cluster. A green crosshair is centered on a bright star. The number '1333' is visible in the top left corner of the image frame.</p>
<p>Robins Egg Nebula (NGC-1360) Config: C11HD ZWO6200MC </p> <p>Type: Planetary Nebula Peak: Constellation: Fornax Coordinates: 03hr 33' 15" -25° 52' 16"</p> <p>Close Star: SAO-168460 Catalog Objects: NCC-1360</p> <p>Imaging Window: *08:43 – 12:24 Transit: 10:36 31°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p>  <p>A close-up image of a bright blue planetary nebula. A green crosshair is centered on the nebula. At the bottom of the image, text reads: "FOV 0.73 x 0.49° - RA 03hr 33' 15", DEC -25° 52' 16".</p>
<p>IC-348 Config: C11HD ZWO6200MC </p> <p>Type: Bright Nebula Peak: Constellation: Perseus Coordinates: 03hr 44' 26" 32° 10' 54"</p> <p>Close Star: SAO-147420 Catalog Objects: IC-348</p> <p>Imaging Window: 07:11 – 02:23 Transit: 10:47 89°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p>  <p>A wide-field astronomical image showing a star cluster. A green crosshair is centered on a bright star. The number '48' is visible in the top left corner of the image frame.</p>

Prospective Imaging Objects – December 12 2023

<p>IC-342 Config: C11HD ZWO6200MC </p> <p>Type: Barred Spiral Galaxy Peak: Constellation: Camelopardalis Coordinates: 03hr 46' 48" 68° 05' 44"</p> <p>Close Star: SAO-12031 (Segin) Catalog Objects: IC-342</p> <p>Imaging Window: 07:27 – 02:11 Transit: 10:49 55°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p> 
<p>Pleiades (M 45) Config: C11-HD HS ZWO6200MC</p> <p>Type: Bright Nebula Peak: November 16 Constellation: Taurus Coordinates: 03hr 46' 07" 24° 11' 18"</p> <p>Close Star: SAO-56799 Catalog Objects: M45</p> <p>Imaging Window: 07:27 – 02:12 Transit: 10:49 81°</p>	<p style="text-align: center;">C-11 HD: HyperStar v4</p>  <p><small>The Pleiades (M-45) Constellation: Taurus</small></p> <p><small>James Webb 2018.10.05 Location: Mountain View, CA Config: C11 HyperStar (QHY12K) Exposure Info: 200ms/Star (Gain: 3184) (Offset: 170)</small></p>
<p>Pleiades (M-45) Config: C1 LF ZWO6200MC </p> <p>Type: Bright Nebula Peak: November 16 Constellation: Taurus Coordinates: 03hr 46' 15.932" 24° 12' 07.154"</p> <p>Close Star: SAO-56799 Catalog Objects: M45</p> <p>Imaging Window: 07:27 – 02:12 Transit: 10:49 81°</p>	<p style="text-align: center;">Primary Focus</p>  <p><small>The Pleiades (M-45) Constellation: Taurus</small></p> <p><small>James Webb 2019.09.27 Location: Mountain View, CA Config: C11 LF Coronado Starwave (QHY12K) Exposure Info: 200ms/Star (Gain: 3200) (Offset: 180)</small></p> <p><small>RA = 03h 46m 15.932s DEC = 24deg 12' 07.154" Size = 40.9 x 33.6 arcmin (Pixel scale = 0.982 arcsec/pixel)</small></p>

Prospective Imaging Objects – December 12 2023

<p>California Nebula (NGC 1499) Config: C11-HD HS ZWO6200MC</p> <p>Type: Diffuse Nebula Peak: November 22 Constellation: Perseus Coordinates: 04hr 01' 22" 36° 21' 19"</p> <p>Close Star: SAO-56840 Catalog Objects: NGC 1499</p> <p>Imaging Window: 07:24 – 02:47 Transit: 11:05 87°</p>	<p style="text-align: center;">C-11 HD: HyperStar v4</p>  <p style="font-size: small;">California Nebula (NGC-1499) Constellation: Perseus</p> <p style="font-size: x-small; text-align: right;">James Volder 2019.08.31 Location: Chandler, AZ Config: C11 HyperStar Astronomik U.S.A.-CCD C11-12k Exposure Info: 220img/5min Gain: 3200 Offset: 180</p>
<p>Oyster Nebula (NGC 1501) Config: C11HD ZWO6200MC </p> <p>Type: Planetary Nebula Constellation: Camelopardalis Coordinates: 04hr 06' 58" 60° 55' 3.5"</p> <p>Close Star: SAO-038787 (Mirfak) Catalog Objects: NGC-1501</p> <p>Imaging Window: 07:26 – 02:53 Transit: 11:09 62°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p>  <p style="font-size: x-small;">NGC-1501 (Oyster Nebula) Constellation: Camelopardalis J2000 RA: 04h 06m 58.2s DEC: +60deg 55' 03.5" Size = 18.5 x 13.9 arcmin Orientation: -0.5deg E of N Pixel scale = 0.277 arcsec/pixel FL = 2800mm</p> <p style="font-size: x-small; text-align: right;">James Volder Distro 2021.12.19 Location: Chandler, AZ Config: C-11 HD F1T Triad Radon Ultra ZWO 6200MC Exposure Info: 12.7img/2min Gain: 100 Offset: 50</p>
<p>Crystal Ball Nebula (NGC 1514) Config: C11HD ZWO6200MC </p> <p>Type: Planetary Nebula Constellation: Taurus Coordinates: 04hr 09' 17" 30° 46' 35"</p> <p>Close Star: SAO-56799 Catalog Objects: NGC-1514</p> <p>Imaging Window: 07:38 – 02:45 Transit: 11:11 87°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p>  <p style="font-size: x-small;">NGC-1514 (Crystal Ball Nebula) Constellation: Taurus J2000 RA: 04h 09m 17.6s DEC: +30deg 46' 36.0" Size = 18.5 x 13.9 arcmin Orientation: 0.4deg E of N Pixel scale = 0.278 arcsec/pixel FL = 2800mm</p> <p style="font-size: x-small; text-align: right;">James Volder Distro 2020.12.09 Location: Chandler, AZ Config: C-11 HD F1T Triad Ultra ZWO 6200MC Exposure Info: 44.8img/2min Gain: 100 Offset: 50</p>




Prospective Imaging Objects – December 12 2023

<p>Cleopatra's Eye (NGC 1535) Config: C11HD ZWO6200MC </p> <p>Type: Planetary Nebula Constellation: Eridanus Coordinates: 04hr 14' 16" -12° 44' 20"</p> <p>Close Star: SAO-131907 (Rigel) Catalog Objects: NGC-1535</p> <p>Imaging Window: *09:05 – 01:53 Transit: 11:16 44°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p>  <p style="font-size: small;">Planetary Nebula NGC-1535 (Cleopatra's Eye) Date/Time: 2023-11-12 01:52:59 (Location: Abisko, AC) Constellation: Eridanus Config: C-11 HD (Foc: 1800) (ZWO6200MC) RA=04:14:16.16 DEC=-12:44:20.0 Size=22.9x15.1 Distance:0.6kly C/N:17.0 Gain=1.0 Filter:None F1.0=2000mm Exposure:300seconds 300img Gain:(Gain:100,Offset:50)</p>
<p>Hind's Variable Nebula (NGC 1555) Config: C11HD ZWO6200MC </p> <p>Type: Planetary Nebula Constellation: Taurus Coordinates: 04hr 21' 54" 19° 32' 00"</p> <p>Close Star: SAO-94027 (Aldebaran) Catalog Objects: NGC-1555</p> <p>Imaging Window: 08:11 – 02:37 Transit: 11:24 76°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p> <p style="text-align: center; color: green;">FOV 0.73 x 0.48° · RA 04hr 21' 54", DEC 19° 32' 00"</p> 
<p>Hyades (C 41, Mel 25) Config: C11-HD HS ZWO6200MC</p> <p>Type: Open Cluster Constellation: Taurus Coordinates: 04hr 26' 34" 15° 31' 39"</p> <p>Close Star: SAO-56840 Catalog Objects: Mel 25</p> <p>Imaging Window: 08:25 – 02:34 Transit: 11:29 73°</p>	<p style="text-align: center;">C-11 HD: HyperStar v4</p> 




Prospective Imaging Objects – December 12 2023

<p>Trifid of the North (NGC 1579) Config: C11HD ZWO6200MC </p> <p>Type: Bright Nebula Peak: Constellation: Perseus Coordinates: 04hr 30' 12" 35° 16' 60"</p> <p>Close Star: SAO-56799 Catalog Objects: NGC-1579</p> <p>Imaging Window: 07:52 – 03:12 Transit: 11:32 88°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p> 
<p>Witch Head Nebula (IC 2118) Config: C11-HD HS ZWO6200MC</p> <p>Type: Bright Nebula Peak: Constellation: Eridanus Coordinates: 05hr 05' 19.872" -06° 56' 00.365"</p> <p>Close Star: SAO-131794 Catalog Objects: IC 2118</p> <p>Imaging Window: *09:22 – 03:11 Transit: 12:07 49°</p>	<p style="text-align: center;">C-11 HD: HyperStar v4</p>  <p style="font-size: small;">Witch Head Nebula (IC-2118) Constellation: Eridanus RA = 05h 05m 19.872s DEC = -06deg 56' 00.365" Size = 2.66 x 1.78 deg Pixel scale = 2.27 arcsecond James Yoder 2019-09-28 Location: Chandler, AZ Config: C11 HyperStar Baader Skyglow CDDV 126s Exposure Info: 54frames@90s Gain: 3200 Offset: 180 </p>
<p>Witch Head Nebula (IC 2118) Config: C11HD ZWO6200MC </p> <p>Type: Bright Nebula Peak: Constellation: Eridanus Coordinates: 05hr 07' 07" -06° 20' 07"</p> <p>Close Star: SAO-131794 Catalog Objects: IC 2118</p> <p>Imaging Window: *09:22 – 03:11 Transit: 12:07 49°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p> 




Prospective Imaging Objects – December 12 2023

<p>Foxface Nebula (NGC 1788) Config: C11 HS ZWO6200MCc Type: Bright Nebula Peak: Constellation: Orion Coordinates: 05hr 06' 10" -04° 04' 26"</p> <p>Close Star: SAO-131794 Catalog Objects: NGC 1788</p> <p>Imaging Window: 10:19 – 01:59 Transit: 12:09 53°</p>	<p style="text-align: center;">Hyperstar</p>  <p>FOV 3.80 x 2.54° · RA 05hr 06' 10", DEC -04° 04' 26"</p> <p>A wide-field Hyperstar image showing the Foxface Nebula and surrounding stars. A green crosshair marks the peak of the nebula. The field of view is 3.80 x 2.54 degrees. The coordinates are RA 05hr 06' 10" and DEC -04° 04' 26".</p>
<p>Foxface Nebula (NGC 1788) Config: C11-HD FR ZWO6200MC </p> <p>Type: Bright Nebula Peak: Constellation: Orion Coordinates: 05hr 05' 52" -03° 22' 22"</p> <p>Close Star: SAO-131794 Catalog Objects: NGC 1788</p> <p>Imaging Window: 10:19 – 01:59 Transit: 12:09 53°</p>	<p style="text-align: center;">C-11 HD: Focal Reducer</p>  <p>A C-11 HD telescope with a focal reducer, providing a wider field of view than the Hyperstar setup. The Foxface Nebula and surrounding stars are visible. A green crosshair marks the peak. The field of view is 3.80 x 2.54 degrees. The coordinates are RA 05hr 05' 52" and DEC -03° 22' 22".</p>
<p>Foxface Nebula (NGC 1788) Config: C11HD ZWO6200MC </p> <p>Type: Bright Nebula Peak: Constellation: Orion Coordinates: 05hr 06' 26" -03° 20' 13"</p> <p>Close Star: SAO-131794 Catalog Objects: NGC 1788</p> <p>Imaging Window: 10:19 – 01:59 Transit: 12:09 53°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p>  <p>A C-11 HD telescope at its primary focus, providing a narrower field of view but higher resolution. The Foxface Nebula and surrounding stars are visible. A green crosshair marks the peak. The field of view is 3.80 x 2.54 degrees. The coordinates are RA 05hr 06' 26" and DEC -03° 20' 13".</p>



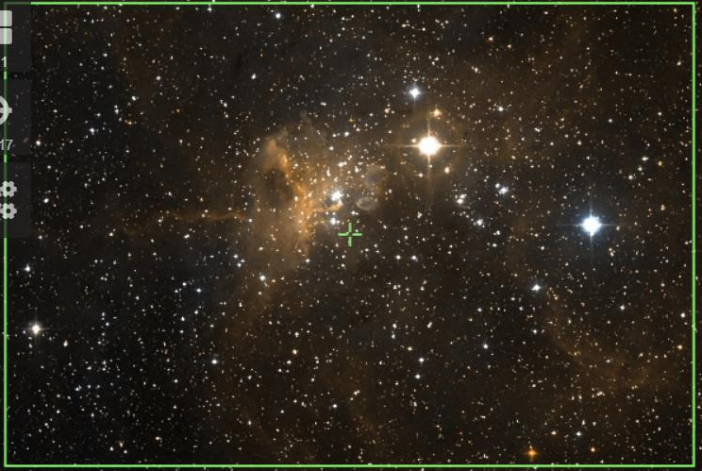
Prospective Imaging Objects – December 12 2023

<p>Flaming Star Nebula (IC-405) Config: C11-HD HS ZWO6200MC</p> <p>Type: Bright Nebula Peak: Constellation: Auriga Coordinates: 05hr 19' 38" 33° 49' 10"</p> <p>Close Star: SAO-77168 (Elnath) Catalog Objects: IC 405, IC 410</p> <p>Imaging Window: 08:40 – 03:57 Transit: 12:19 89°</p>	<p style="text-align: center;">C-11 HD: HyperStar v4</p>  <p style="font-size: small;">Flaming Star Nebula (IC-405, IC-410, IC-417) Constellation: Auriga Config: C-11HD HyperStar v4 HyperStar C11-C22 0.9175x RA = 05h 19m 35.62s DEC = +33deg 49' 17.22" Size = 13.8 x 21.96 deg. Field scale = 2.26 arc/pixel Exposure: 60s @ 780000/Frame Gain: 2000 (Offset: 100)</p>
<p>Flaming Star Nebula (IC 405) Config: C11-HD FR ZWO6200MC </p> <p>Type: Bright Nebula Peak: Constellation: Auriga Coordinates: 05hr 15' 55" 34° 29' 08"</p> <p>Close Star: SAO-77168 (Elnath) Catalog Objects: IC 405</p> <p>Imaging Window: 08:40 – 03:57 Transit: 12:19 89°</p>	<p style="text-align: center;">C-11 HD: Focal Reducer</p>  <p style="font-size: small;">Flaming Star Nebula (IC-405) Constellation: Auriga RA = 05h 15m 55.7s DEC = +34deg 27' 02.17" Size = 9.8 x 11.7 arcmin (Orientation: Obj. 0 of N) Field scale = 0.629 arc/pixel (FL=100mm) Config: C11-HD (8.7 Reducer) Filter: OpenStar L-C (Custom) Camera: QHY128C Exposure: 60s @ 780000/Frame Gain: 2000 (Offset: 100)</p>
<p>Flaming Star Nebula (IC 405) Config: C11-HD ZWO6200MC </p> <p>Type: Bright Nebula Peak: Constellation: Auriga Coordinates: 05hr 16' 37" 34° 23' 47"</p> <p>Close Star: SAO-77168 (Elnath) Catalog Objects: IC 405</p> <p>Imaging Window: 08:40 – 03:57 Transit: 12:19 89°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p> 



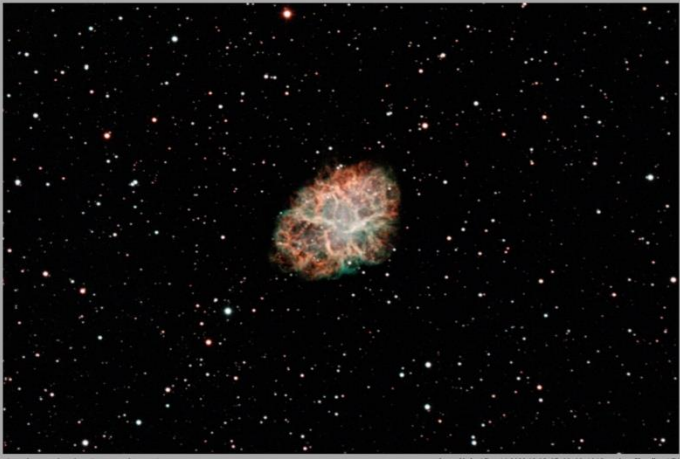
Prospective Imaging Objects – December 12 2023

<p>Tadpoles (IC 410) Config: C11-HD FR ZWO6200MC </p> <p>Type: Diffuse Nebula Peak: Constellation: Auriga Coordinates: 05hr 22' 54" 33° 23' 31"</p> <p>Close Star: SAO-77168 (Elnath) Catalog Objects: IC 410</p> <p>Imaging Window: 08:47 – 04:02 Transit: 12:25 90°</p>	<p style="text-align: center;">C-11 HD: Focal Reducer</p>  <p style="font-size: small;">Tadpole Nebula (IC-410) <small>Constellation: Auriga RA: 05h 22m 51.55s, DEC: +33deg 23' 31.80" - 13 May 27 22:48" Size: 18.5 x 18.8 arcmin (Obsession: Mag 5.0 N, Focal ratio: 0.63 arcsec/pixel, F5-105mm)</small></p>
<p>Tadpoles (IC 410) Config: C11HD ZWO6200MC </p> <p>Type: Diffuse Nebula Peak: Constellation: Auriga Coordinates: 05hr 22' 37" 33° 23' 03"</p> <p>Close Star: SAO-77168 (Elnath) Catalog Objects: IC 410</p> <p>Imaging Window: 08:47 – 04:02 Transit: 12:25 90°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p>  <p style="font-size: small;">Tadpole Nebula (IC-410) <small>Constellation: Auriga RA: 05h 22m 35.61s, DEC: +33deg 23' 03.10" - 13 May 27 00:10" Size: 42 x 28.6 arcmin (Focal ratio: 0.642 arcsec/pixel)</small></p>
<p>M-79 (NGC-1904) Config: C11HD Barlow x2 ZWO6200MC </p> <p>Type: Globular Cluster Peak: Constellation: Lepus Coordinates: 05hr 24' 11" -24° 31' 25"</p> <p>Close Star: SAO-170457 Catalog Objects: M 79</p> <p>Imaging Window: *10:23 – 02:26 Transit: 12:26 32°</p>	<p style="text-align: center;">C-11 HD: Primary Focus *x2</p> 

Prospective Imaging Objects – December 12 2023

<p>Spirograph Nebula (IC 418) Config: C11HD Barlow x2 ZWO6200MC </p> <p>Type: Planetary Nebula Constellation: Lepus Coordinates: 05hr 27' 28" -12° 41' 48"</p> <p>Close Star: SAO-132542 (Saiph) Catalog Objects: IC 418</p> <p>Imaging Window: *09:44 – 03:05 Transit: 12:29 44°</p>	<p>C-11 HD: Primary Focus *x2</p> 
<p>The Spider and the Fly (M-77, NGC-1055, NGC-1931) Config: C11-HD FR ZWO6200MC </p> <p>Type: Diffuse Nebula Peak: Constellation: Auriga</p> <p>Camera Rotation - 90° Frame 01 RA: 05hr 30' 44"DEC: 34° 20' 41" Frame 02 RA: 05hr 27' 55"DEC: 34° 20' 41"</p> <p>Close Star: SAO-77168 (Elnath) Catalog Objects: IC-417, NGC-1931</p> <p>Imaging Window: 08:51 – 04:09 Transit: 12:30 89°</p>	<p>C-11 HD: Focal Reducer Composite!</p>  <p><small>The Spider and the Fly (IC-417 & NGC-1931) Constellation: Auriga RA: 05h 29m 37.57s DEC: -34deg 20' 41.50" Size: 68.0 x 45.3 arcmin Orientation: 0.36deg E of N. Pixel scale: 0.625 arcseconds EL: 1995mm James VanDerKam (Shohei 2018.12.26, 21, 22) Location: Chandler, AZ Config: C11 HD F. Reducer Filter: Optolong Camera: C11 HD Exposure Info: Pac001_218mm 5min_Pac002_300mm 5min Gain: 3200 Offset: 100</small></p>
<p>The Spider (IC 417) Config: C11HD ZWO6200MC </p> <p>Type: Diffuse Nebula Peak: Constellation: Auriga Coordinates: 05hr 28' 03" 34° 22' 58"</p> <p>Close Star: SAO-77168 (Elnath) Catalog Objects: IC 417</p> <p>Imaging Window: 08:51 – 04:09 Transit: 12:30 89°</p>	<p>C-11 HD: Primary Focus</p> 

Prospective Imaging Objects – December 12 2023

<p>Starfish Cluster (M-38) Config: C11HD ZWO6200MC </p> <p>Type: Open Cluster Constellation: Auriga Coordinates: 05hr 28' 43" 35° 51' 18"</p> <p>Close Star: SAO-77168 (Elnath) Catalog Objects: M-38</p> <p>Imaging Window: 08:50 – 04:11 Transit: 12:31 88°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p>  <p style="font-size: small;">M-038 Starfish Cluster James Yoder 2019.09.30</p>
<p>The Fly (NGC 1931) Config: C11HD ZWO6200MC </p> <p>Type: Diffuse Nebula Peak: Constellation: Auriga Coordinates: 05hr 31' 24" 34° 15' 00"</p> <p>Close Star: SAO-77168 (Elnath) Catalog Objects: NGC 1931</p> <p>Imaging Window: 08:55 – 04:12 Transit: 12:33 89°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p>  <p style="font-size: small;">1931</p>
<p>Crab Nebula (M 1) Config: C1 LF ZWO6200MC </p> <p>Type: Planetary Nebula Peak: Constellation: Taurus Coordinates: 05hr 34' 30" 22° 00' 59.9"</p> <p>Close Star: SAO-77336 Catalog Objects: M 1</p> <p>Imaging Window: 09:18 – 03:55 Transit: 12:36 79°</p>	<p style="text-align: center;">Primary Focus</p>  <p style="font-size: x-small;">Crab Nebula (Messier-1) James Yoder Date(s) 2022.02.05, 07, 08, 09, 10 Location: Chandler, AZ Constellation: Taurus Config: C-11 HD Filter: OIII Radius Ultra OIII128c RA = 5h 34m 31.3s DEC = +22deg 00' 34.4" Size = 31.5 x 21.0 arcmin Orientation: -0.34deg Pixel scale = 0.447 arcsec/pixel FL = 2750mm Exposure Info: 1756ms@46nm Gain: 3200 ObsSer: 180</p>

Prospective Imaging Objects – December 12 2023

The Orion Complex

Config: C11 | HS | ZWO6200MC

Type: **Diffuse Nebula**

Peak:

Constellation: **Orion**

Coordinates:

Frame 01

RA: 05hr 43' 42" DEC: -01° 01' 06"

Frame 02

RA: 05hr 31' 05" DEC: -01° 01' 06"

Frame 03

RA: 05hr 43' 42" DEC: -03° 07' 35"

Frame 04

RA: 05hr 31' 04" DEC: -03° 07' 35"

Frame 05

RA: 05hr 43' 43" DEC: -05° 14' 05"

Frame 06

RA: 05hr 31' 04" DEC: -05° 14' 05"

Close Star: SAO-132542 (Saiph)

Catalog Objects: [M-42](#)

Imaging Window: 11:01 – 02:14

Transit: 12:37 | 52°

C-11 HD: HyperStar v4

SUPER-6 Composite!



The Orion Nebula (M 42)

Config: C11-HD | HS |

ZWO6200MC

Type: **Diffuse Nebula**

Peak:

Constellation: **Orion**

Coordinates:

05hr 35' 46"

-05° 15' 34"

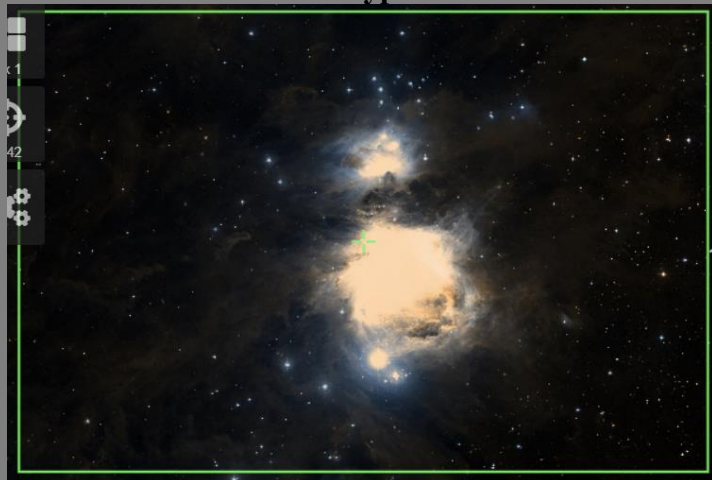
Close Star: SAO-132542 (Saiph)

Catalog Objects: [M 42](#)




Imaging Window: 11:01 – 02:14

Transit: 12:37 | 52°

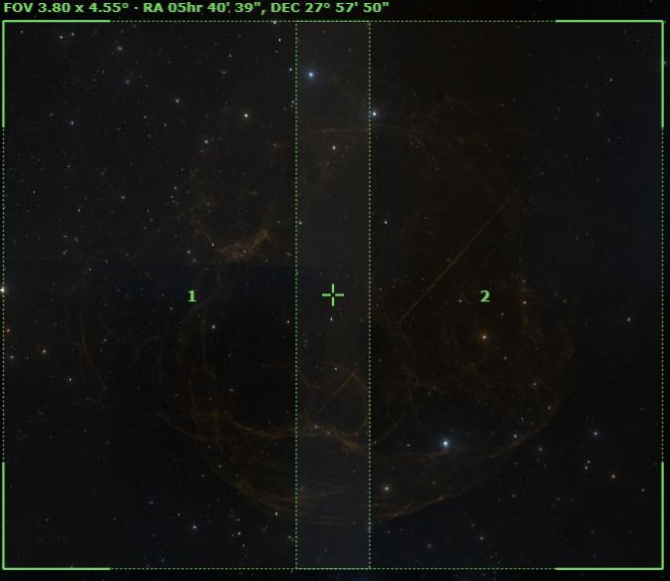
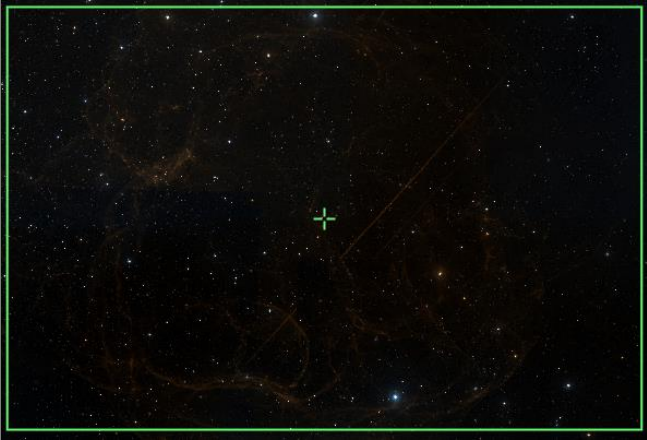
C-11 HD: HyperStar v4






Prospective Imaging Objects – December 12 2023

<p>The Orion Nebula (M 42) Config: C1 LF ZWO6200MC </p> <p>Type: Diffuse Nebula Peak: Constellation: Orion Coordinates: 05hr 35' 09" -05° 24' 32"</p> <p>Close Star: SAO-132542 (Saiph) Catalog Objects: M 42</p> <p>Imaging Window: 11:01 – 02:14 Transit: 12:37 52°</p>	<p style="text-align: center;">Primary Focus</p>  <p style="font-size: small;">Orion Nebula (M-42) Constellation: Orion</p> <p style="font-size: x-small; text-align: right;">James Webb 2019-01-15 Location: Chamber, A2 Config: (C1) Stratos L1 Reflector WFOA2 Filter: Q101262 Exposure Info: 358sec/Sum Gain: 3200 (Offset: 180)</p>
<p>Running Man Nebula (NGC 1977) Config: C11-HD FR ZWO6200MC </p> <p>Type: Bright Nebula Peak: Constellation: Orion Coordinates: 05hr 35' 16" -04° 41' 47"</p> <p>Close Star: SAO-132542 (Saiph) Catalog Objects: NGC 1977</p> <p>Imaging Window: 10:57 – 02:18 Transit: 12:37 52°</p>	<p style="text-align: center;">C-11 HD: Focal Reducer</p> 
<p>Pinwheel Cluster (M-36) Config: C11HD ZWO6200MC </p> <p>Type: Open Cluster Constellation: Auriga Coordinates: 05hr 36' 18" 34° 08' 27"</p> <p>Close Star: SAO-77168 (Elnath) Catalog Objects: M-36/NGC-1960</p> <p>Imaging Window: 09:00 – 04:17 Transit: 12:38 89°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p>  <p style="font-size: x-small;">Pinwheel Cluster (M-36, NGC-1960) Constellation: Auriga</p>



Prospective Imaging Objects – December 12 2023

<p>Simeis 147 (SH2-240) Config: C11-HD HS ZWO6200MC</p> <p>Type: Diffuse Nebula Constellation: Taurus</p> <p>Camera Rotation - 90° Coordinates: Frame 01 RA: 05hr 45' 38" DEC: 27° 56' 31" Frame 02 RA: 05hr 36' 28" DEC: 27° 56' 31"</p> <p>Close Star: SAO-77168 (Elnath) Catalog Objects: SH2-240</p> <p>Imaging Window: 09:12 – 04:10 Transit: 12:41 85°</p>	<p style="text-align: center;">C-11 HD: HyperStar v4 Composite-2</p> 
<p>Simeis 147 (SH2-240) Config: C11-HD HS ZWO6200MC</p> <p>Type: Diffuse Nebula Constellation: Taurus Coordinates: 05hr 39' 04" 28° 00' 00"</p> <p>Close Star: SAO-77168 (Elnath) Catalog Objects: SH2-240</p> <p>Imaging Window: 09:12 – 04:10 Transit: 12:41 85°</p>	<p style="text-align: center;">C-11 HD: HyperStar v4</p> 

Prospective Imaging Objects – December 12 2023

<p>Flame and Horsehead Nebula (NGC 2024, B 33) Config: C11-HD HS ZWO6200MC</p> <p>Type: Diffuse/Dark Nebula Peak: Constellation: Orion Coordinates: 05hr 40' 04" -02° 28' 13"</p> <p>Close Star: SAO-132542 (Saiph) Catalog Objects: NGC 2024, B 33</p> <p>Imaging Window: 10:48 – 02:38 Transit: 12:43 54°</p>	<p style="text-align: center;">C-11 HD: HyperStar v4</p>  <p style="font-size: small;">Horsehead and Flame Nebula Constellation: Orion</p> <p style="font-size: x-small; text-align: right;">Image Date: 2023-11-12 Location: Chandler, AZ Config: C11 HyperStar ZWO6200MC Exposure Info: 148img/Star (Gain: 3100) Offset: 170</p>
<p>Flame Nebula (NGC 2024) Config: C11HD ZWO6200MC </p> <p>Type: Diffuse Nebula Peak: Constellation: Orion Coordinates: 05hr 41' 45.843" -01° 49' 31.401"</p> <p>Close Star: SAO-132542 (Saiph) Catalog Objects: NGC 2024</p> <p>Imaging Window: 10:45 – 02:48 Transit: 12:44 54°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p>  <p style="font-size: small;">Flame Nebula (NGC-2024) Constellation: Orion</p> <p style="font-size: x-small; text-align: right;">Image Date: 2023-11-12 Location: Chandler, AZ Config: C11 HD ZWO6200MC ZWO6200MC Exposure Info: 178img/Star (Gain: 3200) Offset: 180</p>
<p>Horsehead Nebula (B 33) Config: C1 LF ZWO6200MC </p> <p>Type: Dark Nebula Peak: Constellation: Orion Coordinates: 05hr 40' 59" -02° 31' 47"</p> <p>Close Star: SAO-132542 (Saiph) Catalog Objects: B 33</p> <p>Imaging Window: 10:48 – 02:38 Transit: 12:43 54°</p>	<p style="text-align: center;">Primary Focus</p>  <p style="font-size: small;">Horsehead Nebula (IC-434) Constellation: Orion</p> <p style="font-size: x-small; text-align: right;">Image Date: 2023-11-12 Location: Chandler, AZ Config: C11 Starizona LF Reducer ZWO6200MC ZWO6200MC Exposure Info: 298img/Star (Gain: 3200) Offset: 170</p>

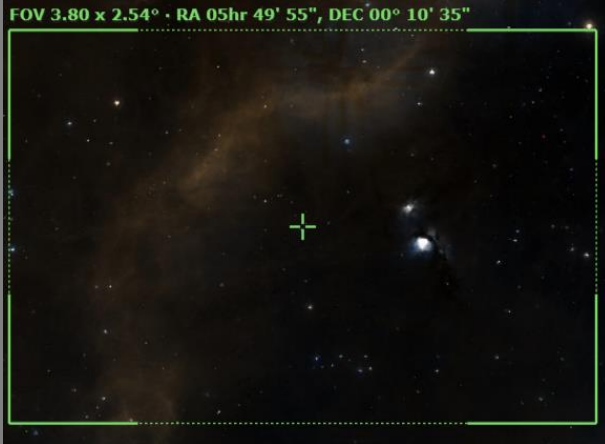
Prospective Imaging Objects – December 12 2023

<p>NGC 2022 Config: C11HD ZWO6200MC </p> <p>Type: Planetary Nebula Peak: Constellation: Orion Coordinates: 05hr 42' 07" 09° 04' 55"</p> <p>Close Star: SAO-112740 (Bellatrix) Catalog Objects: NGC 2022</p> <p>Imaging Window: 10:00 – 03:29 Transit: 12:44 66°</p>	<p>C-11 HD: Primary Focus</p>  <p><small>NGC-2022 Constellation: Orion RA = 05h 42m 06.6s DEC = +09deg 04' 54.9" Size = 18.5 x 13.9 arcmin Orientation: 0.3deg E of N Pixel scale = 0.277 arcsecond FL=2900mm James Yoder (Dane) 2023.12.09, 18 Location: Chandler, AZ Config: C-11 HD OPT F1nd Ultra ZWO6200MC Exposure Info: 50 fms@2ms Gain: 100 Offset: 50 </small></p>
<p>NGC 1961 Config: C11HD ZWO6200MC </p> <p>Type: Spiral Galaxy Peak: Constellation: Camelopardalis Coordinates: 05hr 43' 27" 69° 20' 48"</p> <p>Close Star: SAO-40750 (Menkalinan) Catalog Objects: NGC 1961</p> <p>Imaging Window: 09:28 – 04:00 Transit: 12:44 54°</p>	<p>C-11 HD: Primary Focus</p>  <p><small>Galaxy Cluster (NGC-1961 et al.) Constellation: Camelopardalis RA = 05h 43m 13.80s DEC = +69deg 20' 43.100" Size = 42.3 x 28.5 arcmin Pixel scale = 0.441 arcsecond James Yoder 2019.01.22 Location: Mesa Verde (Chandler, Tucson, AZ) Config: C-11 HD QHY13C Exposure Info: 30 fms@2ms Gain: 1200 Offset: 100 </small></p>
<p>M-78 Config: C11-HD FR ZWO6200MC </p> <p>Type: Dark Nebula Peak: Constellation: Orion</p> <p>Frame 01 RA: 05hr 47' 05"DEC: 00° 20' 09"</p> <p>Frame 02 RA: 05hr 47' 05"DEC: -00° 14' 43"</p> <p>Close Star: SAO-132346 (Alnilam) Catalog Objects: M 78</p> <p>Imaging Window: 10:40 – 02:58 Transit: 12:49</p>	<p>C-11 HD: Focal Reducer Composite!</p>  <p><small>FOV 1.04 x 1.28°. RA 05hr 47' 04" DEC 00° 02' 45"</small></p>

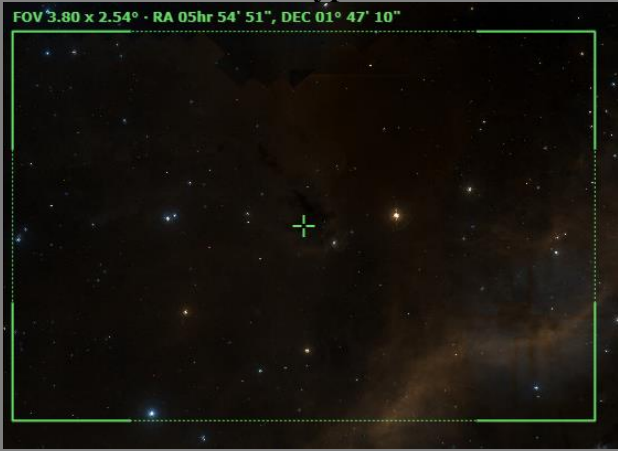

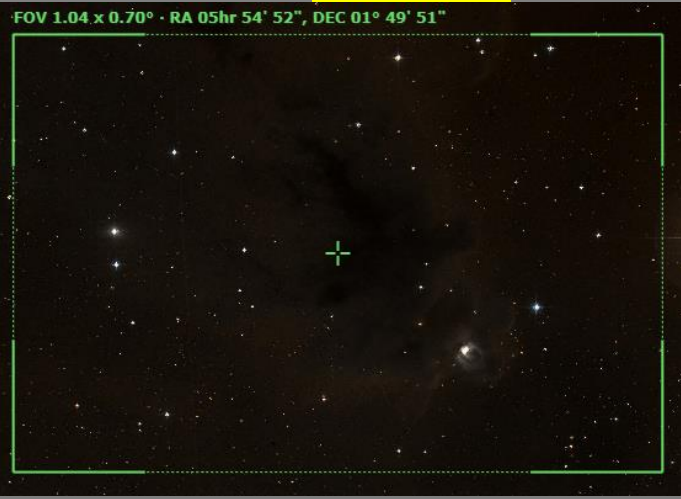
Prospective Imaging Objects – December 12 2023

<p>M-78 Config: C11-HD FR ZWO6200MC </p> <p>Type: Bright and Dark Nebula Peak: Constellation: Orion Coordinates: 05hr 46' 59" 00° 08' 59"</p> <p>Close Star: SAO-132346 (Anilam) Catalog Objects: M 78</p> <p>Imaging Window: 10:40 – 02:58 Transit: 12:49</p>	<p style="text-align: center;">C-11 HD: Focal Reducer</p> 
<p>M-78 Config: C11HD ZWO6200MC </p> <p>Type: Bright and Dark Nebula Peak: Constellation: Orion Coordinates: 05hr 47' 03" 00° 09' 46"</p> <p>Close Star: SAO-132346 (Anilam) Catalog Objects: M 78</p> <p>Imaging Window: 10:40 – 02:58 Transit: 12:49</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p> 
<p>Salt and Pepper Cluster(M-37) Config: C11HD ZWO6200MC </p> <p>Type: Open Cluster Constellation: Auriga Coordinates: 05hr 52' 18" 32° 33' 11"</p> <p>Close Star: SAO-77168 (Elnath) Catalog Objects: M-37/NGC-2099</p> <p>Imaging Window: 09:18 – 04:31 Transit: 12:54 89°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p> 




Prospective Imaging Objects – December 12 2023

<p>LDN-1622 Complex Config: C11HD ZWO6200MC </p> <p>Type: Dark Nebula & Nebula Peak: Constellation: Orion</p> <p>Coordinates: Pane 1: 05hr 50' 40", 01° 46' 30" Pane 2, 05hr 50' 40", 00° 14' 57"</p> <p>Close Star: SAO-132346 (Alnilam) Catalog Objects: LDN 1622 Imaging Window: 10:39 – 03:14 Transit: 12:57</p>	<p style="text-align: center;">C-11 HD: HyperStar v4 Composite!</p> 
<p>LDN-1622 (Region 01) Config: C11HD ZWO6200MC </p> <p>Type: Dark Nebula & Nebula Peak: Constellation: Orion</p> <p>Coordinates: 05hr 51' 00" 00° 59' 47"</p> <p>Close Star: SAO-132346 (Alnilam) Catalog Objects: LDN 1622 Imaging Window: 10:39 – 03:14 Transit: 12:57</p>	<p style="text-align: center;">HyperStar</p> 
<p>LDN-1622 (Region 02) Config: C11HD ZWO6200MC </p> <p>Type: Dark Nebula & Nebula Peak: Constellation: Orion</p> <p>Coordinates: 05hr 49' 55" 00° 10' 35"</p> <p>Close Star: SAO-132346 (Alnilam) Catalog Objects: LDN 1622 Imaging Window: 10:39 – 03:14 Transit: 12:57</p>	<p style="text-align: center;">HyperStar</p> 

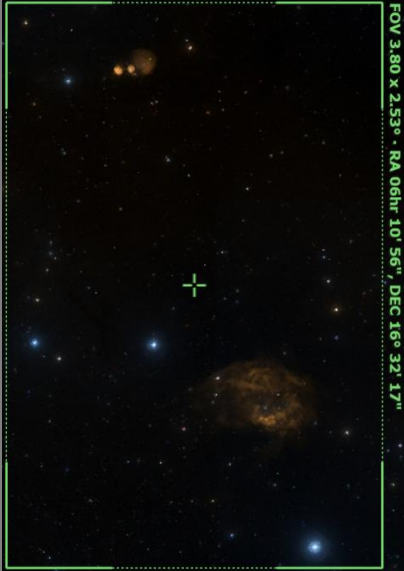
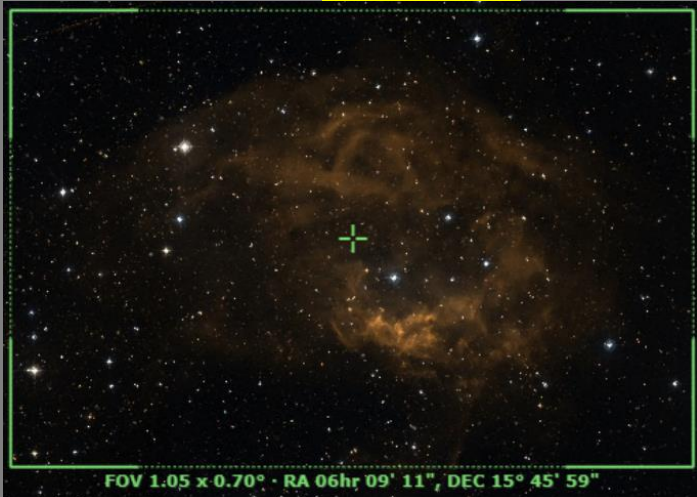

Prospective Imaging Objects – December 12 2023

<p>LDN-1622 (Region 03) Config: C11-HD HS ZWO6200MC</p> <p>Type: Bright and Dark Nebula Peak: Coordinates: 05hr 54' 51" 01° 47' 10"</p> <p>Close Star: SAO-112740(Bellatrix) Catalog Objects: LDN-1622</p> <p>Imaging Window: 10:39 – 03:14 Transit: 12:57</p>	<p style="text-align: center;">C-11 HD: HyperStar v4</p>  <p style="text-align: center;">FOV 3.80 x 2.54° · RA 05hr 54' 51", DEC 01° 47' 10"</p>
<p>LDN 1622 Config: C11HD ZWO6200MC </p> <p>Type: Dark Nebula Peak: Constellation: Orion Camera Rotation - 90° Frame 01 RA: 05hr 56' 28"DEC: 01° 58' 32" Frame 02 RA: 05hr 54' 08"DEC: 01° 58' 35" Close Star: SAO-132346 (Alnilam) Catalog Objects: LDN 1622</p> <p>Imaging Window: 10:39 – 03:14 Transit: 12:57</p>	<p style="text-align: center;">C-11 HD: Focal Reducer Composite!</p>  <p style="text-align: center;">FOV 1.04 x 1.28° · RA 05hr 55' 18", DEC 01° 58' 34"</p>
<p>LDN-1622 Config: C11HD FR ZWO6200MC </p> <p>Type: Bright and Dark Nebula Peak: Constellation: Orion Coordinates: 05hr 54' 52" 01° 49' 51"</p> <p>Close Star: SAO-112740(Bellatrix) Catalog Objects: LDN-1622</p> <p>Imaging Window: 10:39 – 03:14 Transit: 12:57</p>	<p style="text-align: center;">C-11 HD: Focal Reducer</p>  <p style="text-align: center;">FOV 1.04 x 0.70° · RA 05hr 54' 52", DEC 01° 49' 51"</p>


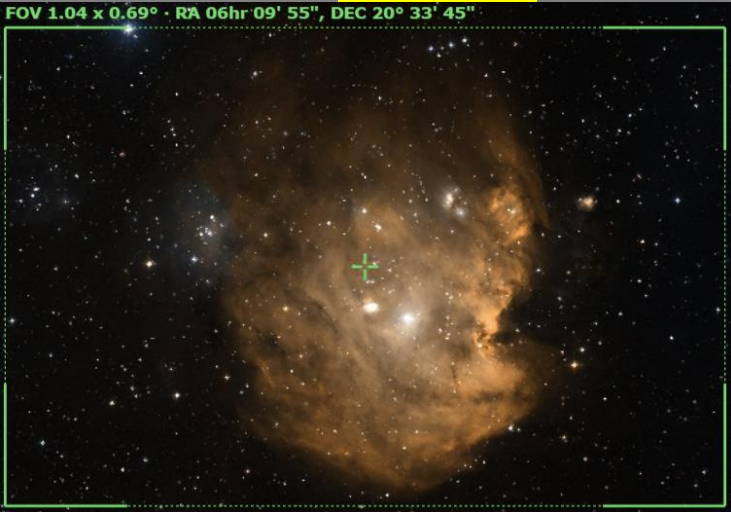

Prospective Imaging Objects – December 12 2023

<p>LDN 1622 Config: C11HD ZWO6200MC </p> <p>Type: Dark Nebula Peak: Constellation: Orion Coordinates: 05hr 54' 55" 01° 49' 49"</p> <p>Close Star: SAO-132346 (Anilam) Catalog Objects: LDN 1622</p> <p>Imaging Window: 10:39 – 03:14 Transit: 12:57</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p> 
<p>Angel Nebula (NGC 2170) Config: C11-HD FR ZWO6200MC </p> <p>Type: Bright and Dark Nebula Peak: Constellation: Monoceros Coordinates: 06hr 08' 26" -06° 25' 24"</p> <p>Close Star: SAO-132542 (Saiph) Catalog Objects: NGC 2170</p> <p>Imaging Window: 11:40 – 02:38 Transit: 01:09</p>	<p style="text-align: center;">C-11 HD: Focal Reducer</p> <p style="text-align: center;">FOV 1.04 x 0.70° - RA 06hr 08' 26", DEC -06° 25' 24"</p> 
<p>Angel Nebula (NGC 2170) Config: C11HD ZWO6200MC </p> <p>Type: Bright and Dark Nebula Peak: Constellation: Monoceros Coordinates: 06hr 08' 23" -06° 19' 23"</p> <p>Close Star: SAO-132542 (Saiph) Catalog Objects: NGC 2170</p> <p>Imaging Window: 11:40 – 02:38 Transit: 01:09</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p>  <p style="font-size: small;">Angel Nebula (NGC-2170) Constellation: Monoceros R.A. = 06h 08m 23.0s, DEC = -06deg 19' 23.4" Size = 41.2 x 27.5 arcmin Orientation: 0 deg E of N Pixel scale = 0.446 arcseconds/px FL=2000mm</p> <p style="font-size: x-small; text-align: right;">James Yoder Location(s): Mountain Grounds (2020 R1 F1), Chandler/2020 R1 F2, AZ Config: C11 HD ZWO6200MC Exposure Info: 475mm/5min Gain: 3200 Offset: 180</p>



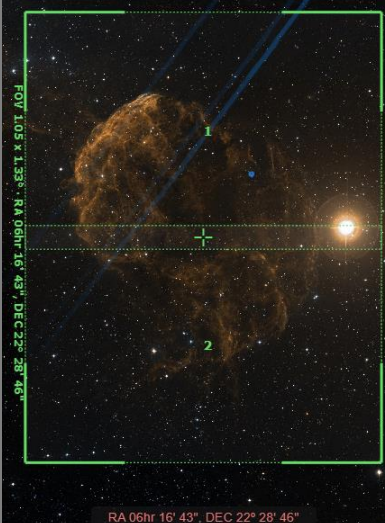
Prospective Imaging Objects – December 12 2023

<p>IC-2162 & SH 2-261 Config: C11HD ZWO6200MC </p> <p>Type: Diffuse Nebula Peak: Constellation: Orion Coordinates: 06hr 10' 56" 16° 32' 17" Angle: 90° East</p> <p>Close Star: SAO-78297 (Calix) Catalog Objects: IC-2162 Sh 2-261</p> <p>Imaging Window: 10:07 – 01:10 Transit: 04:14 72°</p>	<p style="text-align: center;">C-11 HD: HyperStar v4</p> 
<p>Lower's Nebula (Sh 2-261) Config: C11HD ZWO6200MC </p> <p>Type: Diffuse Nebula Peak: Constellation: Orion Coordinates: 06hr 09' 11" 15° 45' 59"</p> <p>Close Star: SAO-78297 (Calix) Catalog Objects: Sh 2-261</p> <p>Imaging Window: 10:07 – 01:10 Transit: 04:14 72°</p>	<p style="text-align: center;">C-11 HD: Focal Reducer</p> 
<p>Lower's Nebula (Sh 2-261) Config: C11HD ZWO6200MC </p> <p>Type: Diffuse Nebula Peak: Constellation: Orion Coordinates: 06hr 08' 59" 15° 46' 39"</p> <p>Close Star: SAO-78297 (Calix) Catalog Objects: Sh 2-261</p> <p>Imaging Window: 10:07 – 01:10 Transit: 04:14 72°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p> 




Prospective Imaging Objects – December 12 2023

<p>M-35, NGC-2158 Config: C11-HD FR ZWO6200MC </p> <p>Type: Open Cluster Pair Constellation: Gemini Coordinates: 06hr 08' 39" 24° 14' 48"</p> <p>Close Star: SAO-95912 (Alhena) Catalog Objects: M-35/NGC-2168, NGC-2158</p> <p>Imaging Window: 09:48 – 04:34 Transit: 01:11 81°</p>	<p style="text-align: center;">C-11 HD: Focal Reducer</p> 
<p>Monkey Head (NGC-2174) Config: C11-HD FR ZWO6200MC </p> <p>Type: Diffuse Nebula Peak: Constellation: Orion Coordinates: 06hr 09' 50" 20° 29' 50"</p> <p>Close Star: SAO-78297 (Calix) Catalog Objects: NGC 2174/Sh 2-252</p> <p>Imaging Window: 09:56 – 04:27 Transit: 01:11 77°</p>	<p style="text-align: center;">C-11 HD: Focal Reducer</p> <p style="text-align: center;">FOV 1.04 x 0.69° · RA 06hr 09' 55", DEC 20° 33' 45"</p> 
<p>Monkey Head (NGC 2174) Config: C11HD ZWO6200MC </p> <p>Type: Diffuse Nebula Peak: Constellation: Orion Coordinates: 06hr 09' 50" 20° 29' 50"</p> <p>Close Star: SAO-78297 (Calix) Catalog Objects: NGC 2174/Sh 2-252</p> <p>Imaging Window: 09:56 – 04:27 Transit: 01:11 77°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p>  <p style="font-size: small;"> Monkey Head Nebula (NGC-2174) James Webb 2023 02 14 Constellation: Orion Location: Chandler, AZ RA = 06h 09m 49.11s, DEC = +20deg 29' 52.185" Size = 12.1 x 26.6 arcmin FWHM scale = 0.446 arcsec/pixel, F1-C-2.720um Config: C-11 HD (Astromech) C11-C-11-001758 Exposure Info: 27 (Total/Frame) Gain: 3200 (08Sec: 180) </p>




Prospective Imaging Objects – December 12 2023

<p>IC 2162 Config: C11HD ZWO6200MC </p> <p>Type: Bright Nebula Peak: Constellation: Orion Coordinates: 06hr 12' 25" 17° 59' 26"</p> <p>Close Star: SAO-78297 (Calix) Catalog Objects: IC 2162</p> <p>Imaging Window: 10:06 – 01:15 Transit: 04:24 75°</p>	<p>C-11 HD: Primary Focus</p>  <p>Bright Nebula IC-2162 Constellation: Orion RA=06h12m25.00s, DEC=+17deg59'26.00" (Size=42.3 x 23.9 arcmin; Peak scale=0.441 arcsec/pixel)</p> <p>Location: Chandler, AZ Config: C-11 HD Astronomy CLS-CCD (SHT) (12k) Exposure Info: 120000/Star/Star Gain: 200 (Offset: 100)</p>
<p>Jellyfish Nebula (IC 443) Config: C11-HD HS ZWO6200MC</p> <p>Type: Supernova Remnant Peak: Constellation: Gemini Coordinates: 06hr 19' 56" 23° 06' 17"</p> <p>Close Star: SAO-78297 (Calix) Catalog Objects: IC 443</p> <p>Imaging Window: 09:59 – 04:38 Transit: 01:18 79°</p>	<p>C-11 HD: HyperStar v4</p>  <p>Jellyfish Nebula (IC-443) Constellation: Gemini RA=20h19m25.00s, DEC=+23deg06'17.00" (Size=3.14 x 2.89 deg; Orientation: 8deg E of N; Pixel scale=2.28 arcsec/pixel; FL=560mm)</p> <p>James Volder Date(s) 2020-10-21 Location: Chandler, AZ Config: C-11HD HyperStar v4 Astronomy CLS-CCD (SHT) (12k) Exposure Info: 150000/Star/Star Gain: 200 (Offset: 100)</p>
<p>Jellyfish Nebula (IC 443) Config: C11-HD FR ZWO6200MC </p> <p>Type: Supernova Remnant Peak: Constellation: Gemini Coordinates: F1 RA=06:16:43 DEC=22:47:40 F2 RA=06:16:43 DEC=22:09:52</p> <p>Close Star: SAO-78297 (Calix) Catalog Objects: IC 443</p> <p>Imaging Window: 09:59 – 04:38 Transit: 01:18 79°</p>	<p>C11-HD: Focal Reducer Composite 2!</p>  <p>FOV: 105" x 133" RA: 06h 16m 43s DEC: 22° 28' 46"</p> <p>RA 06hr 16' 43", DEC 22° 28' 46"</p>


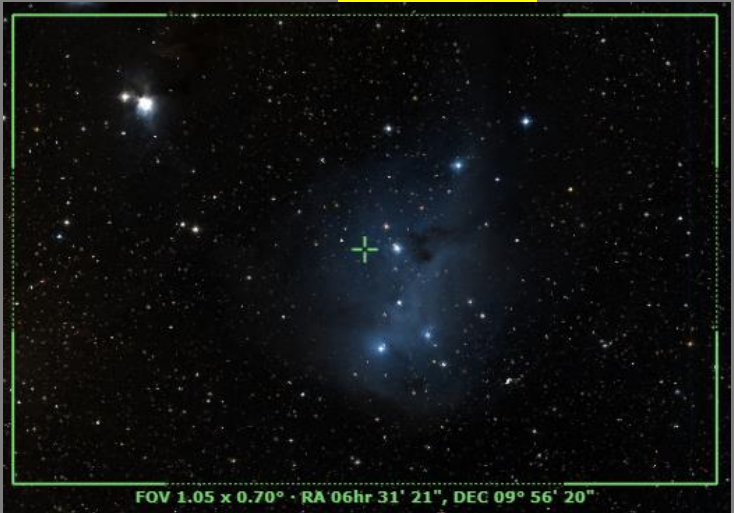

Prospective Imaging Objects – December 12 2023

<p>Jellyfish Nebula (IC 443) Config: C11 LF ZWO6200MC </p> <p>Type: Supernova Remnant Peak: Constellation: Gemini Coordinates: 06hr 16' 51" 22° 36' 34"</p> <p>Close Star: SAO-78297 (Calix) Catalog Objects: IC 443</p> <p>Imaging Window: 09:59 – 04:38 Transit: 01:18 79°</p>	<p style="text-align: center;">Primary Focus</p>  <p style="font-size: small; text-align: center;">Jellyfish nebula (IC 443) Constellation: Gemini</p> <p style="font-size: x-small; text-align: right;">Location: Canada, AZ Config: C11 System L1 Camera OPT 16400 Filter OPT126 Exposure Info: 104ms/Frame - Gain: 5200 (Offset: 100)</p>
<p>Sh 2-249 (IC-444) Config: C11HD ZWO6200MC </p> <p>Type: Diffuse Nebula Peak: Constellation: Gemini Coordinates: 06hr 19' 15" 23° 24' 58"</p> <p>Close Star: SAO-78297 (Calix) Catalog Objects: Sh 2-249</p> <p>Imaging Window: 10:00 – 04:42 Transit: 01:21 80°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p> 
<p>IC-2165 Config: C11HD ZWO6200MC </p> <p>Type: Planetary Nebula Peak: Constellation: Canis Major Coordinates: 06hr 21' 43" -12° 59' 12"</p> <p>Close Star: Catalog Objects: IC-2165</p> <p>Imaging Window: *11:18 – 04:00 Transit: 01:24 44°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p>  <p style="font-size: x-small; text-align: center;">FOV 0.73 x 0.48° · RA 06hr 21' 43", DEC -12° 59' 12" · 0.28"/px</p>

Prospective Imaging Objects – December 12 2023

<p>Rosette Nebula (NGC 2237) Config: C11-HD HS ZWO6200MC</p> <p>Type: Diffuse Nebula Constellation: Monoceros Coordinates: 06hr 31' 53.37" 04° 50' 45.29"</p> <p>Close Star: SAO-95912 (Alhena) Catalog Objects: NGC 2237 ,NGC-2244</p> <p>Imaging Window: 11:02 – 04:03 Transit: 01:33 62°</p>	<p style="text-align: center;">C-11 HD: HyperStar v4</p>  <p style="font-size: small; text-align: left;">Rosette Nebula (NGC 2237, 2244, 2245, 2246) C-11 Hyperstar 1600iso 52min</p> <p style="font-size: small; text-align: right;">James Taylor 2017.11.14.45</p>
<p>Rosette Nebula (NGC 2237) Config: C11-HD FR ZWO6200MC </p> <p>Type: Diffuse Nebula Peak: Constellation: Monoceros Coordinates: 06hr 32' 01" 04° 59' 28"</p> <p>Close Star: SAO-95912 (Alhena) Catalog Objects: NGC 2237</p> <p>Imaging Window: 11:02 – 04:03 Transit: 01:33 62°</p>	<p style="text-align: center;">C-11 HD: Focal Reducer</p> 
<p>Rosette Nebula (NGC 2237) Config: C11HD ZWO6200MC </p> <p>Type: Diffuse Nebula Peak: Constellation: Monoceros Coordinates: 06hr 32' 02" 04° 58' 14"</p> <p>Close Star: SAO-95912 (Alhena) Catalog Objects: NGC 2237</p> <p>Imaging Window: 11:02 – 04:03 Transit: 01:33 62°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p> 



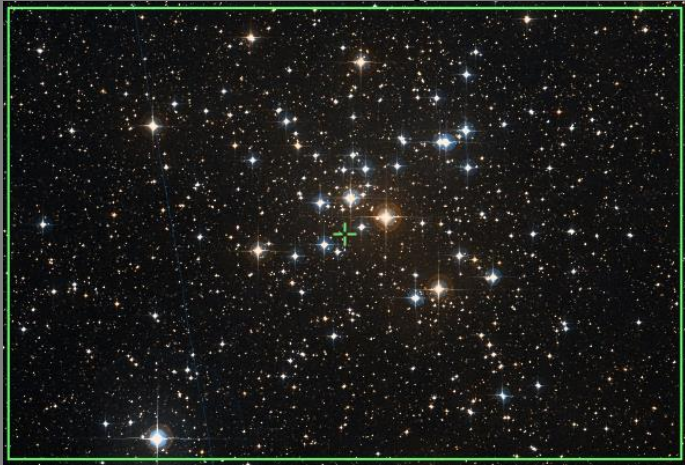
Prospective Imaging Objects – December 12 2023

<p>IC-2169 Config: C11 HS ZWO6200MC</p> <p>Type: Bright Nebula Peak: Constellation: Monoceros Coordinates: 06hr 36' 00" 10° 16' 17"</p> <p>Close Star: SAO-95912 (Alhena) Catalog Objects: IC 2169</p> <p>Imaging Window: 10:46 – 04:20 Transit: 01:33 67°</p>	<p style="text-align: center;">C-11 HD: HyperStar v4</p>  <p style="text-align: center;">FOV 3.80 x 2.53° · RA 06hr 36' 00", DEC 10° 16' 17"</p>
<p>IC 2169 Config: C11-HD FR ZWO6200MC </p> <p>Type: Bright Nebula Peak: Constellation: Monoceros Coordinates: 06hr 31' 21" 09° 56' 20"</p> <p>Close Star: SAO-95912 (Alhena) Catalog Objects: IC 2169</p> <p>Imaging Window: 10:46 – 04:20 Transit: 01:33 67°</p>	<p style="text-align: center;">C-11 HD: Focal Reducer</p>  <p style="text-align: center;">FOV 1.05 x 0.70° · RA 06hr 31' 21", DEC 09° 56' 20"</p>
<p>IC 2169 Config: C11HD ZWO6200MC </p> <p>Type: Bright Nebula Peak: Constellation: Monoceros Coordinates: 06hr 31' 36" 09° 58' 16"</p> <p>Close Star: SAO-95912 (Alhena) Catalog Objects: IC 2169</p> <p>Imaging Window: 10:46 – 04:20 Transit: 01:33 67°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p> 




Prospective Imaging Objects – December 12 2023

<p>Hubble's Variable Nebula (NGC 2261) Config: C11HD ZWO6200MC </p> <p>Type: Reflection Nebula Constellation: Monoceros Coordinates: 06hr 39' 12" 08° 45' 00"</p> <p>Close Star: SAO-95912 (Alhena) Catalog Objects: NGC 2261</p> <p>Imaging Window: 10:58 – 04:24 Transit: 01:41 65°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p> 
<p>Christmas Tree & Cone Config: C11-HD FR ZWO6200MC </p> <p>Type: Diffuse Nebula</p> <p>Coordinates: Pane 1: 06hr 40' 53", 10° 07' 47" Pane 2, 06hr 40' 53", 09° 34' 40"</p> <p>Close Star: SAO-95912 (Alhena) Catalog Objects: NGC 2264/Sh 2-273</p> <p>Imaging Window: 10:56 – 04:30 Transit: 01:43 67°</p>	<p style="text-align: center;">C-11 HD: Focal Reducer Composite!</p> 
<p>Christmas Tree & Cone Config: C11-HD FR ZWO6200MC </p> <p>Type: Diffuse Nebula Peak: Constellation: Monoceros Coordinates: 06hr 40' 47" 09° 42' 40" Angle: 90° East</p> <p>Close Star: SAO-95912 (Alhena) Catalog Objects: NGC 2264/Sh 2-273</p> <p>Imaging Window: 10:56 – 04:30 Transit: 01:43 67°</p>	<p style="text-align: center;">C-11 HD: Focal Reducer</p> 




Prospective Imaging Objects – December 12 2023

<p>Christmas Tree Cluster (NGC 2264) Config: C1 LF ZWO6200MC </p> <p>Type: Diffuse Nebula Peak: Constellation: Monoceros Coordinates: 06hr 40' 58.74" 09° 53' 32.69"</p> <p>Close Star: SAO-95912 (Alhena) Catalog Objects: NGC 2264/Sh 2-273</p> <p>Imaging Window: 10:56 – 04:30 Transit: 01:43 67°</p>	<p>Primary Focus</p>  <p>NGC 2264: Christmas Tree Cluster</p>
<p>Cone Nebula-1 (NGC 2264) Config: C11HD ZWO6200MC </p> <p>Type: Diffuse Nebula Peak: Constellation: Monoceros Coordinates: 06hr 41' 07" 09° 27' 52"</p> <p>Close Star: SAO-95912 (Alhena) Catalog Objects: NGC 2264</p> <p>Imaging Window: 10:56 – 04:30 Transit: 01:43 67°</p>	<p>C-11 HD: Primary Focus</p> 
<p>M-41 (NGC 2287) Config: C11HD ZWO6200MC </p> <p>Type: Open Cluster Constellation: Canis Major Coordinates: 06hr 46' 09" 20° 47' 35"</p> <p>Close Star: SAO-151881 (Sirius) Catalog Objects: M-41/NGC 2287</p> <p>Imaging Window: *11:57 – 03:33 Transit: 01:48 36°</p>	<p>C-11 HD: Primary Focus</p> 




Prospective Imaging Objects – December 12 2023

<p>M-50 (NGC 2323) Config: C11HD ZWO6200MC </p> <p>Type: Open Cluster Constellation: Monoceros Coordinates: 07hr 02' 48" -08° 22' 33"</p> <p>Close Star: SAO-151881 (Sirius) Catalog Objects: M-50/NGC 2323</p> <p>Imaging Window: *11:29 – 04:34 Transit: 02:05 48°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p> 
<p>Seagull Nebula (IC-2177) Config: C11HD ZWO6200MC </p> <p>Type: Diffuse Nebula Peak: Constellation: Monoceros Coordinates: 07hr 06' 20" -11° 06' 56"</p> <p>Close Star: SAO-151881 (Sirius) Catalog Objects: IC-2177</p> <p>Imaging Window: *11:46 – 04:23 Transit: 02:07 46°</p>	<p style="text-align: center;">C-11 HD: HyperStar v4 - 90° Rotation</p>  <p style="font-size: small;">Seagull Nebula (IC-2177, NGC-2327, NGC-2335, NGC-2343) Constellation: Monoceros RA = 07h 06m 20.5s, DEC = -11deg 07' 12.1", Size = 2014 x 1400 arcsec, Orientation: 90deg S of N, Pixel scale = 1.278 arcsec/pixel (11x541um)</p> <p style="font-size: x-small; text-align: right;">James Webb (Data) 2021.08.05, 08, 11, 15, 17, Location: Chandler, AZ Config: C-11HD HyperStar V4 / Optolong L-Extreme / OBY12K / Exposure: 140 / Filter: H-alpha / Gain: 3200 / Offset: 100</p>
<p>Seagull Nebula (IC 2177) Config: C11HD ZWO6200MC </p> <p>Type: Diffuse Nebula Peak: Constellation: Monoceros Coordinates: 07hr 04' 47" -10° 27' 49"</p> <p>Close Star: SAO-151881 (Sirius) Catalog Objects: IC 2177</p> <p>Imaging Window: *11:46 – 04:23 Transit: 02:07 46°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p> 




Prospective Imaging Objects – December 12 2023

<p>Hourglass Nebula (NGC-2346) Config: C11HD ZWO6200MC </p> <p>Type: Planetary Nebula Peak: Constellation: Monoceros Coordinates: 07hr 09' 23" 00° 48' 22"</p> <p>Close Star: SAO-115756 (Procyon) Catalog Objects: NGC-2346</p> <p>Imaging Window: *11:07 – 05:12 Transit: 02:11 56°</p>	<p style="text-align: center;">C-11 HD: Primary Focus x2</p>  <p style="font-size: small;">Planetary Nebula NGC-2346 Constellation: Monoceros RA: 07h 09m 23.00s Dec: 00d 48m 22.00s Size: 25.7x17.1 arcmin Observed: May 6, 2015 (Polaris) - 0.29 arcsecond FWHM - 200km/s Image: Yuki (Dimitry) ZWO6200MC - 2023110301 - London - Charles K7 Config: C11HD Primary Focus Star-CP9-Stack-001 - Camera: ZWO6200MC Exposure: 10s 12.1mm 200000 Gain: 90 Offset: 0</p>
<p>Integral Sign Galaxy (UGC 3697) Config: C11HD FR ZWO6200MC </p> <p>Type: Galaxy Group Constellation: Camelopardalis Coordinates: 07hr 11' 40" 71° 56' 04"</p> <p>Close Star: SAO-40186 (Capella) Catalog Objects: UGC-3697, UGC-3714, UGC-3701</p> <p>Imaging Window: 11:15 – 05:11 Transit: 02:13 52°</p>	<p style="text-align: center;">C-11 HD: Focal Reducer</p> 
<p>Integral Sign Galaxy (UGC 3697) Config: C11HD ZWO6200MC </p> <p>Type: Galaxy Constellation: Camelopardalis Coordinates: 07hr 11' 50" 71° 48' 14"</p> <p>Close Star: SAO-40186 (Capella) Catalog Objects: UGC-3697, UGC-3714</p> <p>Imaging Window: 11:15 – 05:11 Transit: 02:13 52°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p> 


Prospective Imaging Objects – December 12 2023

<p>Thor's Helmet (NGC-2359) Config: C11HD ZWO6200MC </p> <p>Type: Diffuse Nebula Constellation: Canis Major Coordinates: 07h 18' 26.223" -13° 15' 29.563"</p> <p>Close Star: SAO-151881 (Sirius) Catalog Objects: NGC-2359/ Sh2-298/ LBN1041</p> <p>Imaging Window: *11:40 – 04:56 Transit: 02:20 43°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p>  <p style="font-size: small;">Thor's Helmet (NGC 2359) Constellation: Canis Major</p> <p style="font-size: x-small; text-align: right;">James Yoder Date(s) 2023-01-25, 2023-01-27 Location: Phoenix, AZ Config: C-11 Telescope: 11" Camera: ZWO ASI 174MM Exposure Info: (0.400000) Gain: 1200 Offset: 100</p>
<p>Candy Wrapper (NGC-2371) Config: C11HD ZWO6200MC </p> <p>Type: Planetary Nebula Constellation: Gemini Coordinates: 07° 25' 34" 29° 29' 18"</p> <p>Close Star: SAO-151881 (Sirius) Catalog Objects: NGC-2371</p> <p>Imaging Window: 10:55 – 05:53 Transit: 02:27 86°</p>	<p style="text-align: center;">C-11 HD: Primary Focus x2</p>  <p style="font-size: x-small;">Candy Wrapper (NGC 2371) Constellation: Gemini</p> <p style="font-size: x-small; text-align: right;">James Yoder Date(s) 2023-01-25, 2023-01-27 Location: Phoenix, AZ Config: C-11 HD Telescope: Ultra-Fiber Offset: 1200 Exposure Info: (0.400000) Gain: 1200 Offset: 100</p>
<p>Medusa Nebula (Abell 21) Config: C11HD ZWO6200MC </p> <p>Type: Planetary Nebula</p> <p>Constellation: Gemini Coordinates: 07h 29' 00" 13° 15' 00"</p> <p>Close Star: SAO-115756 (Procyon) Catalog Objects: Abell 21</p> <p>Imaging Window: 11:34 – 05:28 Transit: 02:31 70°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p>  <p style="font-size: x-small;">Abell-21 (Medusa Nebula) Constellation: Gemini RA = 7h 29m 54.9s DEC = 13deg 15' 20.8" Size = 38.7 x 26.1 arcmin Orientation: 0.0deg E of N Pixel scale = 0.579 arcsec/pixel F1-2729mm</p> <p style="font-size: x-small; text-align: right;">James Yoder Date(s) 2023-01-25, 2023-01-28 Location: Chandler, AZ Config: C-11 HD Teles: Ultra-Fiber Offset: 1200 Exposure Info: (0.400000) Gain: 1200 Offset: 100</p>

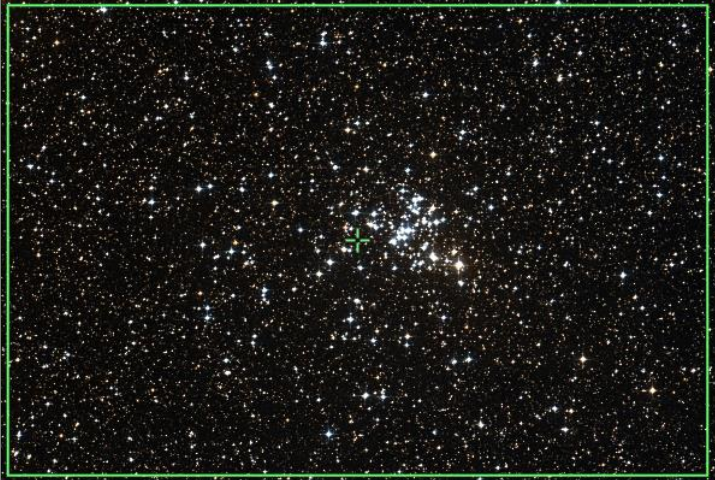


Prospective Imaging Objects – December 12 2023

<p>Eskimo Nebula (NGC-2392) Config: C11HD ZWO6200MC </p> <p>Type: Planetary Nebula</p> <p>Constellation: Gemini Coordinates: 07h 29' 11" 20° 54' 45"</p> <p>Close Star: SAO-79666 (Pollux) Catalog Objects: NGC-2392</p> <p>Imaging Window: 11:15 – 05:47 Transit: 02:31 70°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p>  <p style="font-size: small;">NGC-2392 (Eskimo Nebula) James Yoder Date(s) 2020.12.09 Location: Chandler, AZ Constellation: Gemini Config: C-11 HD JPT Tread Ultra ZWO6200MC RA = 07h 29m 11.5s DEC = +20deg 54' 33.6" Size = 18.5 x 13.9 arcmin Orientation: 0.5deg E. of N. Pixel scale = 0.278 arcsecond FL=2800mm Exposure Info: 144 (Group/Shot) Gain: 100 Offset(s): 50</p>
<p>M-47 (NGC-2422) Config: C11HD ZWO6200MC </p> <p>Type: Open Cluster</p> <p>Constellation: Puppis Coordinates: 07h 36' 36" -14° 32' 19"</p> <p>Close Star: SAO-79666 (Pollux) Catalog Objects: M-47/NGC-2422</p> <p>Imaging Window: *12:02 – 05:07 Transit: 02:38 42°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p> 
<p>NGC-2403 Config: C11HD ZWO6200MC </p> <p>Type: Barred Spiral Galaxy</p> <p>Constellation: Camelopardalis Coordinates: 07h 36' 51" 65° 36' 06"</p> <p>Close Star: SAO-79666 (Pollux) Catalog Objects: NGC-2403</p> <p>Imaging Window: 11:06 – 05:53 Transit: 02:38 58°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p>  <p style="font-size: small;">Galaxy NGC-2403 (Caldwell 7) Coordinates: 07h 36m 51.0s RA, 65d 36m 06.0s DEC Copyright © 2023 James Yoder. All rights reserved. May 14, 2023. Pixel scale: 0.278 arcsecond FL=2800mm Config: C-11 HD JPT Tread Ultra ZWO6200MC Exposure Info: 144 (Group/Shot) Gain: 100 Offset(s): 50</p>



Prospective Imaging Objects – December 12 2023

<p>Intergalactic Wanderer (NGC-2419) Config: C11HD ZWO6200MC </p> <p>Type: Globular Cluster</p> <p>Constellation: Lynx Coordinates: 07h 38' 09" 38° 52' 57"</p> <p>Close Star: SAO-79666 (Pollux) Catalog Objects: NGC-2419</p> <p>Imaging Window: 10:56 – 05:53 Transit: 02:40 84°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p>  <p style="font-size: small; text-align: center;">Intergalactic Wanderer (NGC-2419) © 2023 Starizona LLC. All rights reserved. This image is for personal use only. No part of this image may be reproduced without written permission from Starizona LLC.</p>
<p>M-46 (NGC-2437) Config: C11HD ZWO6200MC </p> <p>Type: Open Cluster with PN</p> <p>Constellation: Puppis Coordinates: 07h 41' 45" -14° 46' 43"</p> <p>Close Star: SAO-151881 (Sirius) Catalog Objects: M-46/NGC-2437, NGC-2438</p> <p>Imaging Window: *12:13 – 05:12 Transit: 02:43 42°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p>  <p style="font-size: small; text-align: center;">NGC-2438 © 2023 Starizona LLC. All rights reserved. This image is for personal use only. No part of this image may be reproduced without written permission from Starizona LLC.</p>
<p>Bow-Tie Nebula (NGC-2440) Config: C11HD ZWO6200MC </p> <p>Type: Planetary Nebula</p> <p>Constellation: Puppis Coordinates: 07° 41' 55" -18° 12' 29"</p> <p>Close Star: SAO-151881 (Sirius) Catalog Objects: NGC-2440</p> <p>Imaging Window: *12:36 – 04:50 Transit: 02:44 38°</p>	<p style="text-align: center;">C-11 HD: Primary Focus x2</p>  <p style="font-size: small; text-align: center;">FOV 0.73 x 0.49° • RA 07hr 41' 55", DEC -18° 12' 29"</p>




Prospective Imaging Objects – December 12 2023

<p>Butterfly Cluster (M-93, NGC-2447) Config: C11HD ZWO6200MC </p> <p>Type: Open Cluster</p> <p>Constellation: Puppis Coordinates: 07h 44' 46" -23° 51' 52"</p> <p>Close Star: SAO-151881 (Sirius) Catalog Objects: M-93/NGC-2447</p> <p>Imaging Window: *12:36 – 04:50 Transit: 02:46 33°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p> 
<p>M-48 (NGC-2548) Config: C11HD ZWO6200MC </p> <p>Type: Open Cluster</p> <p>Constellation: Hydra Coordinates: 08h 13' 46" -05° 46' 05"</p> <p>Close Star: SAO-115756 (Procyon) Catalog Objects: M-48/NGC-2548</p> <p>Imaging Window: *12:36 – 04:56 Transit: 03:15 51°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p> 
<p>NGC-2610 Config: C11-HD HS ZWO6200MC</p> <p>Type: Planetary Nebula</p> <p>Constellation: Hydra Coordinates: 08h 33' 23" -16° 08' 55"</p> <p>Close Star: SAO-151881 (Sirius) Catalog Objects: NGC-2610 Imaging Window: *01:53 – 05:12 Transit: 03:35 41°</p>	<p style="text-align: center;">C-11 HD: Primary Focus x2</p> 


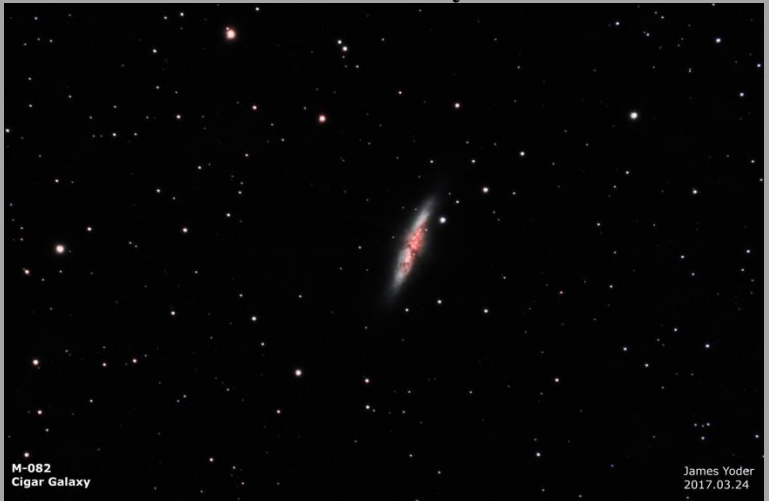

Prospective Imaging Objects – December 12 2023

<p>Beehive Cluster (NGC-2632) Config: C11-HD HS ZWO6200MC</p> <p>Type: Open Cluster</p> <p>Constellation: Cancer Coordinates: 08h 39' 59" 19° 39' 01"</p> <p>Close Star: SAO-115756 (Procyon) Catalog Objects: M-44/NGC-2632</p> <p>Imaging Window: 12:29 – 05:53 Transit: 03:42 76°</p>	<p style="text-align: center;">C-11 HD: HyperStar v4</p> 
<p>M-67 (NGC-2682) Config: C11HD ZWO6200MC </p> <p>Type: Open Cluster</p> <p>Constellation: Cancer Coordinates: 08h 51' 18" 11° 48' 60"</p> <p>Close Star: SAO-115756 (Procyon) Catalog Objects: M-67/NGC-2682</p> <p>Imaging Window: 01:00 – 05:53 Transit: 03:53 68°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p> 
<p>Helix Galaxy (NGC-2685) Config: C11HD ZWO6200MC </p> <p>Type: Galaxy</p> <p>Constellation: Ursa Major Coordinates: 08h 55' 14" 58° 42' 24"</p> <p>Close Star: SAO-27876 (Merak) Catalog Objects: NGC-2685</p> <p>Imaging Window: 12:10 – 04:50 Transit: 01:10 65°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p> 


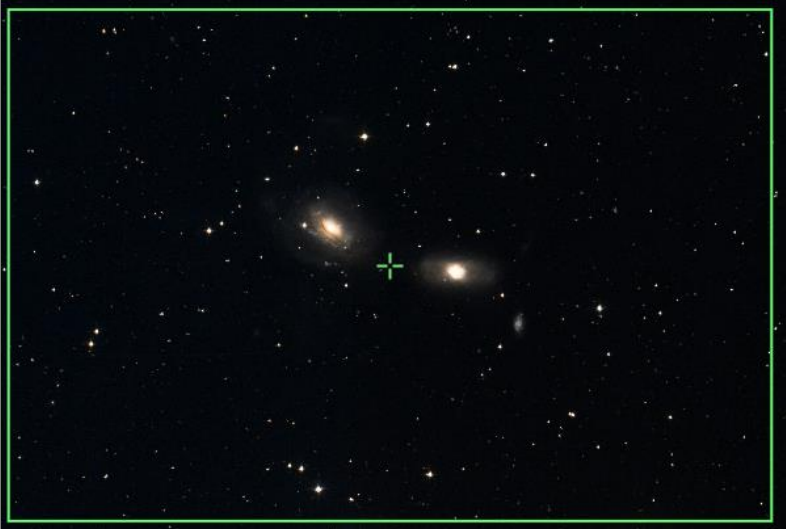
Prospective Imaging Objects – December 12 2023

<p>NGC-2903 Config: C11HD ZWO6200MC </p> <p>Type: Galaxy</p> <p>Constellation: Leo Coordinates: 09h 32' 08.949" 21° 30' 37.772"</p> <p>Close Star: SAO-98967 (Regulus) Catalog Objects: NGC-2903</p> <p>Imaging Window: 01:16 – 05:53 Transit: 04:33 78°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p>  <p style="font-size: small;">NGC-2903 Barred Spiral Galaxy in Leo</p> <p style="text-align: right; font-size: small;">James Yoder 2017.02.24</p>
<p>Bode's Cigar (M81 & M82) Config: C11-HD HS ZWO6200MC</p> <p>Type: Galaxy Pair Peak:</p> <p>Constellation: Ursa Major Coordinates: 09hr 54' 02" 68° 53' 32"</p> <p>Close Star: SAO-15384 Catalog Objects: M-81 & M-82</p> <p>Imaging Window: 01:43 – 05:53 Transit: 04:57 54°</p>	<p style="text-align: center;">C-11 HD: HyperStar v4</p>  <p style="font-size: x-small;">Cigar galaxy (M-82), Bode's galaxy (M-81), NGC-2976</p> <p style="font-size: x-small;">James Yoder Duxini 2020.12.01, 2020.12.01 Location: Chandler, AZ Config: C-11HD HyperStar V4 LPS-S2, CLS-C-CC GH1126c Exposure Info: 90frames@9sec, 240ms@180sec Gain: 3200 Offset: 180</p>
<p>Bode's Cigar (M81 & M82) Config: C11-HD HS ZWO6200MC</p> <p>Type: Galaxy Pair Constellation: Ursa Major Coordinates: RA: 09hr 55' 40" DEC: 69° 18' 39" 90° Rotation</p> <p>Close Star: SAO-15384 Catalog Objects: M-81 & M-82</p> <p>Imaging Window: 01:43 – 05:53 Transit: 04:57 54°</p>	<p style="text-align: center;">C-11 HD: Focal Reducer</p>  <p style="font-size: x-small; transform: rotate(-90deg); position: absolute; left: -100px; top: 50px;">FOV 1.04 x 0.69° - RA 09hr 55' 40", DEC 69° 18' 39" - 0.59"/px</p>



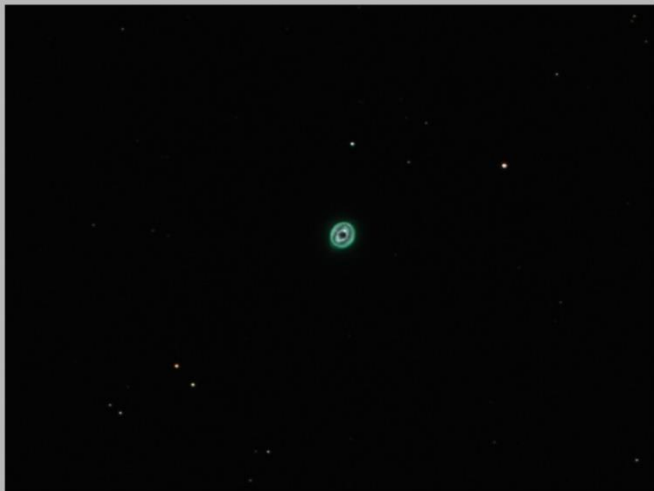
Prospective Imaging Objects – December 12 2023

<p>Bode's Nebula (M-81) Config: C11HD ZWO6200MC </p> <p>Type: Galaxy Constellation: Ursa Major Coordinates: 09h 55' 24.184" 69° 05' 18.969"</p> <p>Close Star: SAO-15384 Catalog Objects: M-81/NGC-3031</p> <p>Imaging Window: 01:40 – 05:53 Transit: 04:57 54°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p>  <p>M-081 Bode's Galaxy</p> <p style="text-align: right;">James Yoder 2015.11.14</p>
<p>Cigar Galaxy (M-82) Config: C11HD ZWO6200MC </p> <p>Type: Galaxy</p> <p>Constellation: Ursa Major Coordinates: 09h 55' 57.451" 69° 42' 37.646"</p> <p>Close Star: SAO-15384 Catalog Objects: M-82/NGC-3034</p> <p>Imaging Window: 01:43 – 05:53 Transit: 04:57 54°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p>  <p>M-082 Cigar Galaxy</p> <p style="text-align: right;">James Yoder 2017.03.24</p>
<p>Spindle Galaxy (NGC-3115) Config: C11HD ZWO6200MC </p> <p>Type: Galaxy</p> <p>Constellation: Sextans Coordinates: 10h 05' 21" -07° 47' 09"</p> <p>Close Star: SAO-98967 (Regulus) Catalog Objects: NGC-3115</p> <p>Imaging Window: *02:32 – 05:53 Transit: 05:06 49°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p>  <p>M-082 Cigar Galaxy</p> <p style="text-align: right;">James Yoder 2017.03.24</p>




Prospective Imaging Objects – December 12 2023

<p>Powder keg Galaxy (UGC-5470) Config: C11HD ZWO6200MC </p> <p>Type: Galaxy</p> <p>Constellation: Leo Coordinates: 10h 08' 27" 12° 19' 49"</p> <p>Close Star: SAO-98967 (Regulus) Catalog Objects: UGC-5470</p> <p>Imaging Window: 02:15 – 05:53 Transit: 05:10 69°</p>	<p>C-11 HD: Primary Focus</p> 
<p>NGC-3166 & NGC-3169 Config: C11HD ZWO6200MC </p> <p>Type: Galaxy pair</p> <p>Constellation: Sextans Coordinates: 10h 14' 01" 03° 25' 51"</p> <p>Close Star: SAO-98967 (Regulus) Catalog Objects: NGC-3166, NGC-3169</p> <p>Imaging Window: 02:51 – 05:53 Transit: 05:15 60°</p>	<p>C-11 HD: Primary Focus</p> 
<p>Hickson 44 (NGC-3190, 3189,) Config: C11HD ZWO6200MC </p> <p>Type: Galaxy Group</p> <p>Constellation: Leo Coordinates: 10h 17' 57" 21° 49' 11"</p> <p>Close Star: SAO-98967 (Regulus) Catalog Objects: NGC-3189, 3190, 3185, 3193, 3187, PGC-2806871</p> <p>Imaging Window: 02:01 – 05:53 Transit: 05:19 79°</p>	<p>C-11 HD: Primary Focus</p>  <p><small>Hickson-44 Galaxy Cluster (Amp-316) © International Dark Sky Association SAO 98967 (Regulus) - 10h 08' 27" - 12° 19' 49" (Dec 12 2023) - 10h 17' 57" - 21° 49' 11" (Dec 12 2023)</small></p> <p><small>NGC 3189 (Amp-316) - 10h 14' 01" - 03° 25' 51" (Dec 12 2023) - 10h 17' 57" - 21° 49' 11" (Dec 12 2023)</small></p>



Prospective Imaging Objects – December 12 2023

<p>NGC-3184 Config: C11HD ZWO6200MC </p> <p>Type: Face-on Spiral Galaxy</p> <p>Constellation: Ursa Major Coordinates: 10h 18' 17" 41° 25' 24"</p> <p>Close Star: SAO-98967 (Regulus) Catalog Objects: NGC-3184</p> <p>Imaging Window: 01:33 – 05:53 Transit: 05:19 82°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p>  <p style="font-size: small;">Barred Spiral Galaxy NGC-3184 Constellation: Ursa Major Coordinates: RA: 10h 18m 17.00s, DEC: 41° 25' 24.00" Orientation: 0° Filter: 000nm</p>
<p>NGC-3227 & NGC-3226 Config: C11HD ZWO6200MC </p> <p>Type: Interacting Galaxies</p> <p>Constellation: Leo Coordinates: 10h 23' 29" 19° 53' 07"</p> <p>Close Star: SAO-60178 (Castor) Catalog Objects: NGC-3227, NGC-3226</p> <p>Imaging Window: 02:11 – 05:53 Transit: 05:25 76°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p> 
<p>Ghost of Jupiter (NGC-3242) Config: C11HD ZWO6200MC </p> <p>Type: Planetary Nebula</p> <p>Constellation: Hydra Coordinates: 10h 24' 46" -18° 38' 31"</p> <p>Close Star: SAO-98967 (Regulus) Catalog Objects: NGC-3242</p> <p>Imaging Window: *03:16 – 05:53 Transit: 05:26 38°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p>  <p style="font-size: x-small;">NGC-3242 (Ghost of Jupiter) Constellation: Hydra Coordinates: RA: 10h 24m 46.7s, DEC: -18° 38' 31.4" Size: 18.5 x 13.9 arcmin Orientation: 41.6deg E of N Pixel scale = 0.279 arcsecond / Pixel Filter: 000nm</p> <p style="font-size: x-small;">James Vowler Duxis 2020-12-09, 10 Location: Chandler, AZ Config: C-11 HD OPT Triad Ultra ZWO6200MC Exposure Info: 36 Frames@2min Gain: 100 Offset: 50 </p>

Prospective Imaging Objects – December 12 2023

<p>Galaxy Group 2574 Config: C11-HD HS ZWO6200MC</p> <p>Type: Galaxy Group</p> <p>Constellation: Leo Coordinates: 10h 28' 40" 68° 26' 14"</p> <p>Close Star: SAO-27876 (Merak) Catalog Objects: IC-2574</p> <p>Imaging Window: 02:09 – 05:53 Transit: 05:30 55°</p>	<p style="text-align: center;">C-11 HD: HyperStar v4</p>  <p style="text-align: center;">FOV 3.81 x 2.54° · RA 10hr 12' 10", DEC 69° 02' 51"</p>
<p>Coddington's Nebula (IC-2574) Config: C11HD ZWO6200MC </p> <p>Type: Barred Spiral Galaxy</p> <p>Constellation: Leo Coordinates: 10h 28' 40" 68° 26' 14"</p> <p>Close Star: SAO-27876 (Merak) Catalog Objects: IC-2574</p> <p>Imaging Window: 02:09 – 05:53 Transit: 05:30 55°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p>  <p style="text-align: center;">Coddington Nebula (IC-2574) <small>James Yoder Date(s) 2022.04.01 - 2020.04.08 Location: Chandler, AZ Constellation: Ursa Major Config: C-11 HD Bader Skyflow QHY128c RA = 10h 28m 41.9s DEC = 68deg 24' 48.2" Size = 32.3 x 23.4 arcmin Orientation: 0.020deg E of N Pixel scale = 0.452 arcsec/pixel FL=2724mm Exposure Info: 200fms@4min Gain: 3200 Offset: 180</small></p>
<p>Leo Galaxy Group (M-96, M95 et al.) Config: C11-HD HS ZWO6200MC</p> <p>Type: Galaxy Grouping</p> <p>Constellation: Leo Coordinates: 10h 47' 23" 12° 23' 59"</p> <p>Close Star: SAO-98967 (Regulus) Catalog Objects: M-96, M95, NGC3389, NGC3384, M105</p> <p>Imaging Window: 02:55 – 05:53 Transit: 05:53 68°</p>	<p style="text-align: center;">C-11 HD: HyperStar v4</p>  <p style="text-align: center;">Galaxy Cluster in Leo <small>James Yoder, 2018.04.17</small></p>

Prospective Imaging Objects – December 12 2023

<p>M-95, M-96 (NGC-3351, 3368) Config: C11-HD FR ZWO6200MC </p> <p>Type: Galaxy Pair</p> <p>Constellation: Leo Coordinates: 10h 45' 20" 11° 44' 30"</p> <p>Close Star: SAO-98967 (Regulus) Catalog Objects: M-95, M-96</p> <p>Imaging Window: 02:55 – 05:53 Transit: 05:53 68°</p>	<p style="text-align: center;">C-11 HD: Focal Reducer</p>  <p style="font-size: small; text-align: center;">Galaxy pair M-95(NGC-3351) & M-96(NGC-3368) Constellation: Leo (the Lion) <small>(RA: 10h 45m 19.9s DEC: -11deg 44' 27.7") Size: 18.2 x 40 arcmin (Field width: 18.579 arcmin/deg)</small></p> <p style="font-size: x-small; text-align: right;">James Yoder 2023-04-27 Location: Mountain Grande Trailhead Config: C-11 HD (Focal Reducer) / ZWO6200MC Exposure Info: 20x300@12sec / Gain: 3200 / Offset: 150</p>
<p>Leo Trio 2 (NGC-3379, 3384, 3389) Config: C11HD ZWO6200MC </p> <p>Type: Trio of Galaxies</p> <p>Constellation: Leo Coordinates: 10h 48' 07.227" 12° 33' 52.943"</p> <p>Close Star: SAO-98967 (Regulus) Catalog Objects: M-105/NGC3379, NGC-3384, NGC-3389</p> <p>Imaging Window: 02:54 – 05:53 Transit: 05:49 69°</p>	<p style="text-align: center;">C-11 HD: Primary Focus</p>  <p style="font-size: small;">Trio of Galaxies NGC 3389 NGC 3384 NGC 3379 (M105)</p> <p style="font-size: x-small; text-align: right;">James Yoder 2015-03-22</p>

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Prospective Imaging Objects – December 12 2023

Imaging Summary December 12, 2023

Astronomical Dusk = 06:49

Astronomical Dawn = 05:53

HyperStar: Nebula

Configuration	Class	Type	Object	Imaging Window	Transit	Page Ref	Comments
HyperStar	Nebula	Nebula	NGC-7822	06:49 – 10:30	07:05	02	Cepheus: Nebula CED-214
HyperStar	Nebula	Nebula	NGC-7822	06:49 – 10:30	07:05	02	Cepheus: Nebula CED-214
HyperStar	Nebula	Nebula	SH2-185	06:49 – 11:43	07:59	10	Cassiopeia: Bright Nebula
HyperStar	Nebula	Neb, OC	NGC-457	06:49 – 12:09	08:22	11	Cassiopeia: NGC-457 & Dolphin Nebula
HyperStar	Nebula	Nebula	IC-1848, 1805	06:49 – 01:18	09:35	16	Comp4! Cassiopeia: Heart and Soul Nebula
HyperStar	Nebula	Nebula	IC-1805	06:49 – 01:18	09:35	16	Cassiopeia: Heart Nebula
HyperStar	Nebula	Nebula	IC-1848	06:49 – 01:38	09:54	19	Cassiopeia: Soul Nebula
HyperStar	Nebula	Nebula	NGC-1499	07:24 – 02:47	11:05	22	Perseus: California Nebula
HyperStar	Nebula	Nebula	IC-405	08:40 – 03:57	12:19	26	Auriga: Flaming Star Nebula
HyperStar	Nebula	Nebula	M-42	11:01 – 02:14	12:37	30	Orion: Comp6! Orion Complex
HyperStar	Nebula	Nebula	M-42	11:01 – 02:14	12:37	30	Orion: Orion Nebula
HyperStar	Nebula	Nebula	SH2-240	09:12 – 04:10	12:41	32	Orion: Comp2! & Rotation90 Simeis-147
HyperStar	Nebula	Nebula	SH2-240	09:12 – 04:10	12:41	32	Orion: Simeis-147
HyperStar	Nebula	Nebula	NGC-2024, B33	10:48 – 02:38	12:43	33	Orion: Flame and Horsehead Nebula
HyperStar	Nebula	Nebula	LDN-1622	10:39 – 03:14	12:57	36	Orion: Comp2! LDN-1622 Complex
HyperStar	Nebula	Nebula	LDN-1622 R1	10:39 – 03:14	12:57	36	Orion: LDN-1622 Region 01
HyperStar	Nebula	Nebula	LDN-1622 R2	10:39 – 03:14	12:57	36	Orion: LDN-1622 Region 02
HyperStar	Nebula	Nebula	LDN-1622 R3	10:39 – 03:14	12:57	37	Orion: LDN-1622 Region 03
HyperStar	Nebula	Nebula	IC-2162, SH2-261	10:07 – 01:10	04:14	39	Orion: Rot90 Orion: Nebula
HyperStar	Nebula	Nebula	IC-443	09:59 – 04:38	01:18	41	Gemini: Jellyfish Nebula
HyperStar	Nebula	Nebula	NGC-2237	11:02 – 04:03	01:33	43	Monoceros: Rosette Nebula
HyperStar	Nebula	Nebula	IC-2169	10:46 – 04:20	01:33	44	Monoceros: Nebula Complex
HyperStar	Nebula	Nebula	IC-2177	*11:46-04:23	02:07	47	Rot90 Monoceros: Seagull Nebula
HyperStar	Nebula	Nebula					

Prospective Imaging Objects – December 12 2023

Imaging Summary December 12, 2023

Astronomical Dusk = 06:49

Astronomical Dawn = 05:53

HyperStar: Broad Spectrum

Configuration	Class	Type	Object	Imaging Window	Transit	Page Ref	Comments
HyperStar	Broad Spectrum	Galaxies	NGC-147	06:49 – 11:26	07:36	04	Cassiopeia: Galaxy Pair NGC-147 & NGC-185
HyperStar	Broad Spectrum	Galaxy	M-31	06:49 – 11:32	07:46	06	Andromeda: The Great Andromeda Galaxy
HyperStar	Broad Spectrum	Galaxy	M-31	06:49 – 11:32	07:46	07	Rotation: Andromeda: Andromeda Galaxy
HyperStar	Broad Spectrum	Gal & GC	NGC-288, 253	*06:49-09:49	07:50	08	Sculptor: Globular and Galaxy
HyperStar	Broad Spectrum	Galaxy	M-33	06:49 – 12:10	08:37	13	Triangulum: Triangulum Galaxy
HyperStar	Broad Spectrum	OC	NGC-869, 884	06:49 – 01:13	09:25	15	Perseus: Hand chi Persei Open Cluster Pair
HyperStar	Broad Spectrum	Refl Neb	M-45	07:27 – 02:12	10:49	21	Taurus: Pleiades Open Cluster
HyperStar	Broad Spectrum	OC	C-41	08:25 – 02:34	11:29	23	Taurus: Hyades Open Cluster
HyperStar	Broad Spectrum	DN	IC-2118	*09:22-03:11	12:07	24	Eridanus: Witch Head Nebula
HyperStar	Broad Spectrum	BN	NGC-1788	10:19 – 01:59	12:09	25	Orion: Foxface Nebula
HyperStar	Broad Spectrum	OC	NGC-2632	12:29 – 05:53	03:42	53	Cancer: Beehive Cluster
HyperStar	Broad Spectrum	Galaxies	M-81 & M-82	01:43 – 05:53	04:57	54	Ursa Major: Galaxy Pair M-81 & M-82
HyperStar	Broad Spectrum	Galaxies	IC-2574	02:09 - 05:53	05:30	58	Leo: Galaxy Group 2574
HyperStar	Broad Spectrum	Galaxies	M-96, 95 Et El	02:55 – 05:53	05:53	58	Leo: Leo Galaxy Group

Prospective Imaging Objects – December 12 2023

Imaging Summary December 12, 2023

Astronomical Dusk = 06:49

Astronomical Dawn = 05:53

Focal Reducer: Nebula

Configuration	Class	Type	Object	Imaging Window	Transit	Page Ref	Comments
Focal Reducer	Nebula	Nebula	NGC-7822	06:49 – 10:30	07:05	03	Cepheus: Bright Nebula CED-214
Focal Reducer	Nebula	Nebula	NGC-246, 255	*06:49-10:34	07:50	07	Cetus: Planetary Nebula and 2 Galaxies
Focal Reducer	Nebula	Nebula	NGC-281	06:49 – 04:28	07:50	09	Cassiopeia: Packman Nebula
Focal Reducer	Nebula	Nebula	IC-1795	06:49 – 01:10	09:28	16	Cassiopeia: Fish Head Nebula
Focal Reducer	Nebula	Nebula	IC-1805	05:53 – 01:18	09:35	17	Cassiopeia: Heart Nebula RIO
Focal Reducer	Nebula	Nebula	IC-405	08:40 – 03:57	12:19	26	Auriga: Flaming Star Nebula
Focal Reducer	Nebula	Nebula	IC-410	08:47 – 04:02	12:25	27	Auriga: Tadpoles
Focal Reducer	Nebula	Nebula	NGC1055,1931	08:51 – 04:09	12:30	28	Comp2! Rot90° Auriga: The Spider and The Fly
Focal Reducer	Nebula	Nebula	NGC-1977	10:57 – 02:18	12:37	31	Orion: Running Man Nebula
Focal Reducer	Nebula	Nebula	NGC-2170	11:40 – 02:38	01:09	38	Monoceros: Angle Nebula
Focal Reducer	Nebula	Nebula	SH 2-261	10:07 – 01:10	04:14	39	Orion: Lower's Nebula
Focal Reducer	Nebula	Nebula	NGC-2174	09:56 – 04:27	01:11	40	Orion: Monkey Head Nebula
Focal Reducer	Nebula	Nebula	IC-443	09:59 – 04:38	01:18	41	Composite2! Gemini: Jellyfish Nebula
Focal Reducer	Nebula	Nebula	NGC-2237	11:02 – 04:03	01:33	43	Monoceros: Rosette Nebula ROI
Focal Reducer	Nebula	Nebula	IC-2169	10:46 – 04:20	01:33	44	Monoceros: Blue Nebula IC-2169
Focal Reducer	Nebula	Nebula	NGC-2264	10:56 – 04:30	01:43	45	Composite2! Monoceros: Xmas tree & Cone Neb
Focal Reducer	Nebula	Nebula	NGC-2264	10:56 – 04:30	01:43	45	Rot90° Monoceros: Xmas tree & Cone Neb

Prospective Imaging Objects – December 12 2023

Imaging Summary December 12, 2023

Astronomical Dusk = 06:49

Astronomical Dawn = 05:53

Focal Reducer: Broad Spectrum

Configuration	Class	Type	Object	Imaging Window	Transit	Page Ref	Comments
Focal Reducer	Broad Spectrum	Galaxies	NGC-147, 185	06:49 – 11:26	07:36	05	Composite 2! Cassiopeia: Galaxy Pair
Focal Reducer	Broad Spectrum	Open Cl	NGC-188	*06:49-04:28	07:50	09	Cepheus: Open Cluster
Focal Reducer	Broad Spectrum	Galaxy	M-33	06:49 – 12:10	08:37	13	Rot90° Triangulum: Triangulum Galaxy
Focal Reducer	Broad Spectrum	Galaxies	M-77, NGC-1055	07:34 – 11:55	09:44	17	Cetus: Galaxy Pair
Focal Reducer	Broad Spectrum	DN/RN	NGC-1788	10:19 - 01:59	12:09	25	Orion: Foxface Nebula
Focal Reducer	Nebula	Nebula	M-78	10:40 – 02:58	12:49	34	Comp2! Orion: Dark Nebula Region
Focal Reducer	Nebula	Nebula	M-78	10:40 – 02:58	12:49	35	Orion: Dark Nebula Region
Focal Reducer	Broad Spectrum	DN	LDN-1622	10:39 – 03:14	12:57	37	Comp2! Rot90° Orion: Dark Nebula Region
Focal Reducer	Broad Spectrum	DN	LDN-1622	10:39 – 03:14	12:57	37	Orion: Dark Nebula Region
Focal Reducer	Broad Spectrum	OC	M-35, NGC-2158	09:48 – 04:34	01:11	40	Gemini: Open Cluster Pair
Focal Reducer	Broad Spectrum	Galaxies	UGC-3697	11:15 – 05:11	02:13	48	Camelopardalis: Integral Sign Galaxy
Focal Reducer	Broad Spectrum	Galaxies	M-81 & M-82	01:43 – 05:53	04:57	54	Rot90° Ursa Major: Galaxy Pair Bode's Cigar
Focal Reducer	Broad Spectrum	Galsxies	M-95 & M-96	02:55 – 05:53	05:53	59	Leo: Galaxy Pair

Prospective Imaging Objects – December 12 2023

Imaging Summary December 12, 2023

Astronomical Dusk = 06:49

Astronomical Dawn = 05:53

Primary Focus: Nebula

Configuration	Class	Type	Object	Imaging Window	Transit	Page Ref	Comments
Primary Focus	Nebula	Nebula	NGC-7822	06:49 – 10:30	07:05	03	Cepheus: CED-214
Primary Focus	Nebula	PN	NGC-40	06:49 – 10:08	07:16	04	Cepheus: Bow-Tie Nebula
Primary Focus	Nebula	PN	NGC-246	*06:49-10:34	07:50	07	Cetus: Skull Nebula
Primary Focus	Nebula	Nebula	IC-59	06:49 – 11:43	07:59	10	Cassiopeia: Gamma Cassiopeiae Nebula
Primary Focus	Nebula	Nebula	SH2-188	06:49 – 12:20	08:33	12	Cassiopeia: Firefox Nebula
Primary Focus	Nebula	PN	M-76	06:49 – 12:35	08:45	14	Perseus: Little Dumbbell Nebula
Primary Focus	Nebula	Nebula	IC-1805	06:49 – 01:18	09:35	17	Cassiopeia: Heart Nebula Core
Primary Focus	Nebula	Nebula	IC-1848	06:49 – 01:38	09:54	19	Cassiopeia: Soul Nebula Core
Primary Focus	Nebula	Nebula	NGC-1333	08:43 – 12:30	10:36	20	Perseus: Bright Nebula
Primary Focus	Nebula	Nebula	NGC-1360	*08:43-12:24	10:36	20	Fornax: Robins Egg Nebula
Primary Focus	Nebula	Nebula	IC-348	07:11 – 02:23	10:47	20	Perseus: Nebula
Primary Focus	Nebula	Nebula	NGC-1501	07:26 – 02:53	11:09	22	Camelopardalis: Oyster Nebula
Primary Focus	Nebula	Nebula	NGC-1514	07:38 – 02:45	11:11	22	Taurus: Crystal Ball Nebula
Primary Focus	Nebula	Nebula	NGC-1535	*09:05-01:53	11:16	23	Eridanus: Cleopatra's Eye
Primary Focus	Nebula	Nebula	NGC-1555	08:11 – 02:37	11:24	23	Taurus: Hind's Variable Nebula
Primary Focus	Nebula	Nebula	NGC-1579	07:52 – 03:12	11:32	24	Perseus: Trifid of the North
Primary Focus	Nebula	Nebula	IC-405	08:40 – 03:57	12:19	26	Auriga: Flaming Star Nebula Core
Primary Focus	Nebula	Nebula	IC-410	08:47 – 04:02	12:25	27	Auriga: Tadpoles
Primary Focus	Nebula	PN	IC-418	*09:44-03:05	12:29	28	Lepus: Spirograph Nebula
Primary Focus	Nebula	Nebula	IC-417	08:51 – 04:09	12:30	28	Auriga: The Spider
Primary Focus	Nebula	Nebula	NGC-1931	08:55 – 04:12	12:33	29	Auriga: The Fly
Primary Focus	Nebula	Nebula	M-1	09:18 – 03:55	12:36	29	Taurus: Crab Nebula
Primary Focus	Nebula	Nebula	M-42	11:01 – 02:14	12:37	31	Orion: The Orion Nebula
Primary Focus	Nebula	Nebula	NGC-2024	10:45 – 02:48	12:44	33	Orion: Flame Nebula

Prospective Imaging Objects – December 12 2023

Configuration	Class	Type	Object	Imaging Window	Transit	Page Ref	Comments
Primary Focus	Nebula	Nebula	B-33	10:48 – 02:38	12:43	33	Orion: Horsehead Nebula B-33
Primary Focus	Nebula	Nebula	NGC-2022	10:00 – 03:29	12:44	34	Orion: Small Planetary Nebula
Primary Focus	Nebula	Nebula	NGC-2170	11:40 – 12:38	01:09	38	Monoceros: Angle Nebula
Primary Focus	Nebula	Nebula	SH 2-261	10:07 – 01:10	04:14	39	Orion: Lower's Nebula Core
Primary Focus	Nebula	Nebula	NGC-2174	09:56 – 04:27	01:11	40	Orion: Monkey Head Nebula Core
Primary Focus	Nebula	Nebula	IC-2162	10:06 – 01:15	04:24	41	Orion: Bright Nebula blots
Primary Focus	Nebula	Nebula	IC-443	09:59 – 04:38	01:18	42	Gemini: Jellyfish Nebula Core
Primary Focus	Nebula	Nebula	SH 2-249	10:00 – 04:42	01:21	42	Gemini: Diffuse Nebula IC-444
Primary Focus	Nebula	PN	IC-2165	*11:18-04:00	01:24	42	Canis Major: Small Planetary
Primary Focus	Nebula	DN	NGC-2237	11:02 – 04:03	01:33	43	Monoceros: Rosette Nebula Core
Primary Focus	Nebula	BN	IC-2169	10:46 – 04:20	01:33	44	Monoceros: Blue Nebula IC-2169
Primary Focus	Nebula	RN	NGC-2261	10:59 – 04:24	01:41	45	Monoceros: Hubble's Variable Nebula
Primary Focus	Nebula	Nebula	NGC-2264	10:56 – 04:30	01:43	46	Monoceros: Christmas Tree Cluster
Primary Focus	Nebula	Nebula	NGC-2264 R1	10:56 – 04:30	01:43	46	Monoceros: Cone Nebula
Primary Focus	Nebula	Nebula	IC-2177	*11:46-04:23	02:07	47	Monoceros: Seagull Nebula Head
Primary Focus	Nebula	Nebula	NGC-2346	*11:07-05:12	02:11	48	Monoceros: Hourglass Nebula
Primary Focus	Nebula	Nebula	NGC-2359	*11:40-04:56	02:20	49	Canis Major: Thor's Helmet
Primary Focus	Nebula	Nebula	NGC-2371	10:55 – 05:53	02:27	49	Gemini: Candy Wrapper Nebula
Primary Focus	Nebula	Nebula	Abell-21	11:37 – 05:28	02:31	49	Gemini: Medusa Nebula
Primary Focus	Nebula	Nebula	NGC-2392	11:15 – 05:47	02:31	50	Gemini: Eskimo Nebula
Primary Focus	Nebula	PN	M-46	*12:13-05:12	02:43	51	Puppis: Open Cluster with PN
Primary Focus	Nebula	Nebula	NGC-2440	*12:36-04:50	02:44	51	Puppis: Bow-Tie Nebula
Primary Focus	Nebula	PN	NGC-2610	*01:53-05:12	03:35	52	Hydra: Small PN
Primary Focus	Nebula	PN	NGC-3242	*03:16-05:53	05:26	57	Hydra: Ghost of Jupiter

Prospective Imaging Objects – December 12 2023

Imaging Summary December 12, 2023

Astronomical Dusk = 06:49

Astronomical Dawn = 05:53

Primary Focus: Broad Spectrum

Configuration	Class	Type	Object	Imaging Window	Transit	Page Ref	Comments
Primary Focus	Broad Spectrum	OC	NGC-7789	06:49 – 10:49	07:00	02	Cassiopeia: Caroline's Rose
Primary Focus	Broad Spectrum	Galaxies	NGC 67-72 et. El.	06:49 – 10:54	07:21	04	Andromeda: Andromeda Galaxy Group
Primary Focus	Broad Spectrum	Galaxy	NGC-147	06:49 – 11:26	07:36	05	Cassiopeia: Dwarf Galaxy NGC-147
Primary Focus	Broad Spectrum	Galaxy	NGC-185	06:49 – 11:32	07:42	05	Cassiopeia: Dwarf Spheroidal Galaxy
Primary Focus	Broad Spectrum	Galaxy	M-110	06:49 – 11:32	07:46	06	Andromeda: Elliptical Galaxy
Primary Focus	Broad Spectrum	Galaxy	M-32	06:49 – 11:32	07:46	06	Andromeda: Andromeda Companion Galaxy
Primary Focus	Broad Spectrum	Galaxy	NGC-247	*06:49-10:17	07:50	08	Cetus: Needle's Eye Galaxy
Primary Focus	Broad Spectrum	Galaxy	NGC-253	*06:49-09:49	07:50	08	Sculptor: Sculptor Galaxy
Primary Focus	Broad Spectrum	Globular	NGC-288	*06:49-09:44	07:55	09	Sculptor: Med/Lrg Globular
Primary Focus	Broad Spectrum	Galaxy	IC-1613	06:49 – 10:26	08:07	10	Cetus: Irregular Dwarf Galaxy
Primary Focus	Broad Spectrum	Galaxy	NGC-404	06:49 – 11:53	08:12	11	Andromeda: Mirachs Ghost
Primary Focus	Broad Spectrum	OC	NGC-457	06:49 – 12:09	08:22	11	Cassiopeia: Owl Cluster
Primary Focus	Broad Spectrum	Galaxies	Arp-133	06:49- 10:30	08:28	12	Cetus: Minkowski's Object
Primary Focus	Broad Spectrum	OC	M-103	06:49 – 12:20	08:36	12	Cassiopeia: Open Cluster NGC-581
Primary Focus	Broad Spectrum	Galaxy	M-33	06:49 – 12:10	08:37	13	Triangulum: Triangulum Galaxy
Primary Focus	Broad Spectrum	Galaxy	M-74	06:49 – 11:43	08:39	14	Pisces: Med Face-on Galaxy
Primary Focus	Broad Spectrum	Galaxy	NGC-772	06:49 – 12:14	09:02	14	Aries: Nautilus Galaxy
Primary Focus	Broad Spectrum	Galaxy	NGC-891	06:49 – 01:12	09:25	15	Andromeda: Edge On Galaxy NGC-891
Primary Focus	Broad Spectrum	Galaxy	NGC-925	06:49 – 01:08	09:30	15	Triangulum: Face On Galaxy PGC-9332
Primary Focus	Broad Spectrum	Galaxy	NGC-1055	07:34 – 11:55	09:44	18	Cetus: Edge on Galaxy
Primary Focus	Broad Spectrum	Galaxy	M-77	07:37 – 11:53	09:45	18	Cetus: Face On Galaxy NGC-1068
Primary Focus	Broad Spectrum	OC	M-34	06:49 – 01:32	09:45	18	Perseus: Open Cluster NGC-1039
Primary Focus	Broad Spectrum	Galaxies	Abell-426	06:49 – 02:08	10:22	19	Perseus: Perseus Galaxy Cluster

Prospective Imaging Objects – December 12 2023

Configuration	Class	Type	Object	Imaging Window	Transit	Page Ref	Comments
Primary Focus	Broad Spectrum	Galaxy	IC-342	07:27 – 02:11	10:49	21	Camelopardalis: Face On Galaxy
Primary Focus	Broad Spectrum	OC	M-45	07:27 – 02:12	10:49	21	Taurus: Pleiades Core
Primary Focus	Broad Spectrum	DN	IC-2118	*09:22-03:11	12:07	24	Eridanus: Witch Head Nebula ROI
Primary Focus	Broad Spectrum	DN	NGC-1788	10:19 – 01:59	12:09	25	Orion: Foxface Nebula ROI
Primary Focus	Broad Spectrum	GC	M-79	*10:23-02:26	12:26	27	Lepus: Med Globular Cluster NGC-1904
Primary Focus	Broad Spectrum	OC	M-38	08:50 – 04:11	12:31	29	Auriga: starfish Cluster
Primary Focus	Broad Spectrum	OC	M-36	09:00 – 04:17	12:38	31	Auriga: Pinwheel Cluster NGC-1960
Primary Focus	Broad Spectrum	Galaxy	NGC-1961	09:28 – 04:00	12:44	34	Camelopardalis: Small Galaxy
Primary Focus	Broad Spectrum	DN, BN	M-78	10:40 – 02:58	12:49	35	Orion: Bright and Dark Nebula
Primary Focus	Broad Spectrum	OC	M-37	09:18 – 04:32	12:54	35	Auriga: Sale and Pepper Cluster
Primary Focus	Broad Spectrum	DN	LDN-1622	10:39 – 03:14	12:57	38	Orion: Dark Nebula & Bright Nebula
Primary Focus	Broad Spectrum	OC	M-41	*11:57-03:33	01:48	46	Canis Major: Open Cluster NGC-2287
Primary Focus	Broad Spectrum	OC	M-50	*11:29-04:34	02:05	47	Monoceros: Open Cluster NGC-2323
Primary Focus	Broad Spectrum	Galaxies	UGC-3697	11:15 – 05:11	02:13	48	Camelopardalis: Integral Sign Galaxy UGC-3697
Primary Focus	Broad Spectrum	OC	M-47	*12:02-05:07	02:38	50	Puppis: Open Cluster NGC-2422
Primary Focus	Broad Spectrum	Galaxy	NGC-2403	11:06 – 05:53	02:38	50	Camelopardalis: Barred Spiral Face on Galaxy
Primary Focus	Broad Spectrum	GC	NGC-2419	10:56 – 05:53	02:40	51	Lynx: Intergalactic Wanderer
Primary Focus	Broad Spectrum	OC	M-93	*12:36-04:50	02:46	52	Puppis: Butterfly Cluster NGC-2447
Primary Focus	Broad Spectrum	OC	M-48	*12:36-04:56	03:15	52	Hydra: Open Cluster NGC-2548
Primary Focus	Broad Spectrum	OC	M-67	01:00 – 05:53	03:53	53	Cancer: Open Cluster NGC-2682
Primary Focus	Broad Spectrum	Galaxy	NGC-2685	12:10 – 04:50	01:10	53	Ursa Major: Helix Galaxy
Primary Focus	Broad Spectrum	Galaxy	NGC-2903	01:16 – 05:53	04:33	54	Leo: Med Face On Galaxy
Primary Focus	Broad Spectrum	Galaxy	M-81	01:40 – 05:53	04:57	55	Ursa Major: Bode's Nebula
Primary Focus	Broad Spectrum	Galaxy	M-82	01:43 – 05:53	04:57	55	Ursa Major: Cigar Galaxy
Primary Focus	Broad Spectrum	Galaxy	NGC-3115	*02:32-05:53	05:06	55	Sextans: Spindle Galaxy
Primary Focus	Broad Spectrum	Galaxy	UGC-5470	02:15 – 05:53	05:10	56	Leo: Powder keg Galaxy UGC-5470
Primary Focus	Broad Spectrum	Galaxies	NGC-3166, 3169	02:51 - 05:53	05:15	56	Sextans: Galaxy Pair
Primary Focus	Broad Spectrum	Galaxies	Hickson 44	02:10 – 05:53	05:19	56	Leo: Galsxy Group NGC-3190, 3189

Prospective Imaging Objects – December 12 2023

Configuration	Class	Type	Object	Imaging Window	Transit	Page Ref	Comments
Primary Focus	Broad Spectrum	Galaxy	NGC-3184	01:33 – 05:53	05:19	57	Ursa Major: Med Face On Galaxy
Primary Focus	Broad Spectrum	Galaxies	NGC-3227, 3226	02:11 – 05:53	05:25	57	Leo: Interacting Galaxies
Primary Focus	Broad Spectrum	Galaxy	IC-2574	02:09 – 05:53	05:30	58	Leo: Coddington's Nebula
Primary Focus	Broad Spectrum	Galxies	NGC-3379 et. El.	02:54 – 05:53	05:49	59	Leo: Leo Trio 2 of galaxies

Prospective Imaging Objects – December 12 2023

Imaging Summary December 12, 2023

Astronomical Dusk = 06:49

Astronomical Dawn = 05:53

Primary Prospects

Plan	Configuration	Class	Type	Object	Imaging Window	Transit	Page Ref	Comments
	HypterStar	Broadband	OC	NGC-869, 884	06:49 – 01:13	09:25	15	Perseus: Hand chi Persei Double Cluster
HS1a	HyperStar	Nebula	Nebula	IC-1848	07:47 – 03:12	11:29	22	Comp4! Cassiopeia: Heart & Soul Nebulas
	HyperStar	Nebula	Nebula	NGC-1499	07:24 – 02:47	11:05	22	Perseus: California Nebula (Redo)
	HyperStar	Nebula	Nebula	M-42	11:01 – 02:14	12:37	30	Orion: The Orion Nebula
	HyperStar	Nebula	Nebula	SH2-240	09:12 – 04:10	12:41	32	Rot-Comp2 Taurus: Simeis 147
HS2	HyperStar	Nebula	Nebula	LDN-1622	10:39 – 03:14	12:57	36	Comp2! LDN 1622 Complex
	HyperStar	Nebula	Nebula	IC-2162, SH2-261	10:07 – 01:10	04:14	39	Rotation Orion: Nebula Pair
	HyperStar	Nebula	Nebula	NGC-2237	11:02 – 04:03	01:33	43	Monoceros: Rosett Nebula (Redo)
HS1b	HyperStar	Nebula	Nebula	IC-2169	10:46 – 04:20	01:33	44	Monoceros: IC-2169 Nebula
FR1a	Focal Reducer	Nebula	Nebula	NGC-7822	06:49 – 10:30	07:05	03	Cepheus: Bright/Dark Nebula
	Focal Reducer	Nebula	Nebula	IC-1805	06:49 – 01:18	09:35	17	Cassiopeia: Heart Nebula Core (Redo)
	Focal Reducer	Nebula	Nebula	NGC-1788	10:19 – 01:59	12:09	25	Orion: Foxface Nebula
	Focal Reducer	Nebula	Nebula	NGC-1977	10:57 – 02:18	12:37	31	Orion: Running Man Nebula
	Focal Reducer	Nebula	Nebula	M-78	10:40 – 02:58	12:49	34	Comp2! Orion: Dark & Bright Nebula
	Focal Reducer	Nebula	Nebula	LDN-1622	10:39 – 03:14	12:57	37	Rot-Comp2 Orion: Dark Nebula
	Focal Reducer	Nebula	Nebula	SH 2-261	10:07 – 01:10	04:14	39	Orion: Lower's Nebula
	Focal Reducer	Nebula	Nebula	NGC-2174	09:56 – 04:27	01:11	40	Orion: Monkey Head Nebula
FR1b	Focal Reducer	Nebula	Nebula	IC-443	09:59 – 04:38	01:18	41	Comp2! Gemini: Jellyfish Nebula
	Focal Reducer	Nebula	Nebula	NGC-2237	11:02 – 04:03	01:33	43	Monoceros: Rosette Nebula Core
	Focal Reducer	Nebula	Nebula	IC-2169	10:46 – 04:20	01:33	44	Monoceros: Blue Nebula
	Focal Reducer	Nebula	Nebula	NGC-2264	10:56 – 04:30	01:43	45	Rot Monoceros: Xmas Tree & Cone
	Focal Reducer	Broadband	Galaxies	M-81, M-82	01:43 – 05:53	04:57	54	Rot Ursa Major: Bode's Cigar

Prospective Imaging Objects – December 12 2023

Plan	Configuration	Class	Type	Object	Imaging Window	Transit	Page Ref	Comments
	Primary Focus	Nebula	PN	NGC-40	06:49 – 10:08	07:16	04	Cepheus: Bow-Tie Nebula (Sm/Med)
	Primary Focus	Broadband	Galaxies	NGC67-72	06:49 – 10:54	07:21	04	Andromeda: Andromeda Galaxy Group
	Primary Focus	Broadband	GC	NGC-288	*06:49-09:44	07:55	09	Sculptor: Med/Large Globular
	Primary Focus	Nebula	Nebula	SH2-185	06:49 – 11:43	07:59	10	Cassiopeia: Gamma Cassiopeiae Nebula
	Primary Focus	Broadband	Galaxy	IC-1613	06:49 – 10:26	08:07	10	Cetus: Irregular Dwarf Galaxy
	Primary Focus	Broadband	Galaxies	Arp-133	06:49 – 10:30	08:28	12	Cetus: Minkowski's Object
	Primary Focus	Broadband	Galaxy	NGC-772	06:49 – 12:14	09:02	14	Aries: Nautilus Galaxy
	Primary Focus	Broadband	Galaxies	Abell-426	06:49 – 02:08	10:22	19	Perseus: Perseus Galaxy Cluster
	Primary Focus	Nebula	PN	NGC-1360	*08:43-12:24	10:36	20	Fornax: Robins Egg Nebula
	Primary Focus	Nebula	Nebula	IC-348	07:11 – 02:23	10:47	20	Perseus: Bright Nebula
	Primary Focus	Broadband	Galaxy	IC-342	07:27 – 02:11	10:49	21	Camelopardalis: Large Face On galaxy
	Primary Focus	Nebula	Nebula	IC-405	08:40 – 03:57	12:19	26	Auriga: Flaming Star Nebula
	Primary Focus	Broadband	GC	M-79	*10:23-02:26	12:26	27	Lepus: Med Globular NGC-1904
	Primary Focus	Nebula	PN	IC-418	*09:44-03:05	12:29	28	Lepus: Spirograph Nebula (Sm)
	Primary Focus	Nebula	Nebula	IC-417	08:51 – 04:09	12:30	28	Auriga: The Spider
	Primary Focus	Nebula	Nebula	NGC-1931	08:55 – 04:12	12:33	29	Auriga: The Fly
	Primary Focus	Nebula	PN	NGC-2261	10:58 – 04:24	01:41	45	Monoceros: Hubble's Variable Nebula
	Primary Focus	Nebula	Nebula	NGC-2264	10:56 – 04:30	01:43	46	Monoceros: Cone Nebula-1
	Primary Focus	Nebula	Nebula	IC-2177	*11:46-04:23	02:07	47	Monoceros: Seagull Nebula head
	Primary Focus	Nebula	PN	NGC-2440	*12:36-04:50	02:44	51	Puppis: Bow-tie Nebula
	Primary Focus	Nebula	PN	NGC-2610	*01:53-05:12	03:35	52	Hydra: Sm/Med Planetary
	Primary Focus	Broadband	Galaxy	UGC-5470	02:15 – 05:53	05:10	56	Leo: Powder Keg Galscy
	Primary Focus	Broadband	Galaxies	NGC-3166, 3169	02:51 – 05:53	05:15	56	Sextans: Galaxy Pair
	Primary Focus	Broadband	Galaxies	NGC-3227, 3226	02:11 – 05:53	05:25	57	Leo: Interacting Galaxy Pair

Prospective Imaging Objects – December 12 2023

Imaging Summary December 12, 2023

Astronomical Dusk = 06:49

Astronomical Dawn = 05:53

Imaging Plans

Plan	Configuration	Class	Type	Object	Imaging Window	Transit	Page Ref	Imaging Schedule
HS1a	HyperStar	Nebula	Nebula	IC-1848,1805	06:49 – 01:18	09:35	16	C1-C4 06:49 – 01:20 (Composite4!)
HS1b	HyperStar	Nebula	Nebula	IC-2169	10:46 – 04:20	01:33	44	01:30 – 04:30
HS1c	HyperStar	Broadband	OC	NGC-2632	12:29 – 05:53	04:57	53	04:30 – 06:00
HS2	HyperStar	Nebula	Nebula	Sh2-240	09:22 – 04:10	12:41	32	09:10 – 04:20
FR1a	Focal Reducer	Nebula	Nebula	NGC-7822	06:49 – 10:30	07:05	03	06:40 – 10:00
FR1b	Focal Reducer	Nebula	Nebula	IC-443	09:59 – 04:38	01:18	41	10:00 – 04:40
FR2a	Focal Reducer	Broadband	OC	NGC-188	*06:49 - 04:28	07:50	09	06:40 – 10:30
FR2b	Focal Reducer	Broadband	DN	M-78	10:40 – 02:58	12:49	34	10:30 – 03:00
FR2c	Focal Reducer	Broadband	Galaxies	M-81 & M-82	01:43 – 05:53	04:57	54	03:00 – 06:00
PN1a	Primary Focus	Nebula	PN	NGC-40	06:49 – 10:08	07:16	04	06:50 – 10:00
PN1b	Primary Focus	Nebula	PN	IC-418	*09:44 – 03:05	12:29	28	10:00 – 03:10
PN1c	Primary Focus	Nebula	PN	NGC-3242	*03:16 – 05:53	05:26	57	03:10 -06:00
PF1a	Primary Focus	Nebula	Nebula	IC-59	06:49 – 12:20	07:59	10	06:49 – 12:00
PF1b	Primary Focus	Nebula	Nebula	IC-2177	*11:46 – 04:23	02:07	47	12:00 – 04:30
PF2a	Primary Focus	Broad Spectrum	Galaxy	IC-1613	06:49 – 10:26	08:07	10	06:49 – 10:30
PF2b	Primary Focus	Broad Spectrum	Galaxy	LDN-1622	10:39 – 03:14	12:57	38	10:30 – 03:20
	Primary Focus	Broad Spectrum	Galaxy	UGC-5470	02:15 – 05:53	05:10	56	03:30 – 06:00